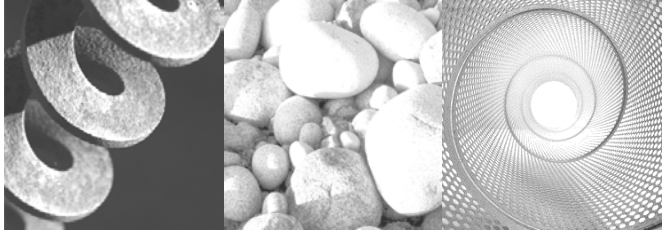

GEI Consultants

Consulting
Engineers and
Scientists

MassDEP RTN 3-23246

Phase V Status Report No. 24 and Remedial Monitoring Report No. 39

50 Tufts Street, Somerville, Massachusetts

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August 2, 2023

Project 04516-3

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Acronyms and Abbreviations

µg/L	micrograms per liter
AUL	Activity and Use Limitation
CEP	Critical Exposure Pathway
COPC	Compounds of Potential Concern
CRA	Comprehensive Remedial Action
CSA	Comprehensive Site Assessment
DNAPL	dense non-aqueous phase liquid
EPA	U.S. Environmental Protection Agency
EPMM	Exposure Pathway Mitigation Measure
FIR	Final Inspection Report
GEI	GEI Consultants, Inc.
GLX	Green Line Extension
IH	Imminent Hazard
IRA	Immediate Response Action
lbs	pounds
LQG	Large Quantity Generator
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MBTA	Massachusetts Bay Transportation Authority
MCP	Massachusetts Contingency Plan
MNA	Monitored Natural Attenuation
NAPL	non-aqueous phase liquid
NSR	No Significant Risk
OHM	oil and/or hazardous material
OMM	Operation, Maintenance, and Monitoring
PCE	tetrachloroethylene (perchloroethylene)
PSS	Permanent Solution Statement
RAM	Release Abatement Measure
RAO	Response Action Outcome
RAP	Remedial Action Plan
RIP	Remedy Implementation Plan

RMR	Remedial Monitoring Report
ROS	Remedy Operations Status
RTN	Release Tracking Number
SHE	Substantial Hazard Evaluation
SSDS	sub-slab depressurization system
SVE	soil vapor extraction
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
VOC	volatile organic compound

Executive Summary

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 24 and Remedial Monitoring Report (RMR) No. 39 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts. The Site has been in Remedy Operation Status (ROS) for approximately 11 years. This Phase V Status Report No. 23 covers the period from December 16, 2022 to June 15, 2023.

Background

From approximately 1955 to 2002, the Property was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at, and transported to and from the Property, included chlorinated volatile organic compounds (VOCs). These chlorinated VOCs – particularly tetrachloroethylene (also called perchloroethylene [PCE]), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at the Property and are therefore the compounds of potential concern (COPCs) for the Site. In some buildings within the Site, chlorinated VOCs have been detected in indoor air samples.

The detection of chlorinated VOCs in indoor air at some buildings required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report" (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011. The Site was reclassified as Tier II on August 1, 2014.

The remedial action alternative (RAA) selected by the Phase III evaluation included:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove COPCs from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

The Phase IV FIR/Phase V ROS documented that construction and implementation of the Comprehensive Response Action (CRA) has been completed; and additional activities, such as operation and monitoring of active remedial systems, will be conducted under Phase V ROS.

In accordance with the MCP, particularly 310 CMR 40.0892, this Phase V Status Report No. 24 and RMR No. 39 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of operation, maintenance, and/or monitoring (OMM) activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems identified through OMM activities during the reporting period that are, or may be, affecting the performance of the remedial action.
- A description of the measures taken to address any conditions or problems identified through OMM activities during the reporting period.
- The name, license number, signature and seal of the LSP.

Following is a summary of OMM activities conducted at the Site to date:

Capuano Center

An SSDS is installed in the east wing of the Capuano Center. In addition, GEI sealed certain slab/wall joints at the Capuano Center to mitigate a potential preferred migration pathway. GEI conducted 24 rounds of indoor air sampling after the SSDS was installed in February 2007. The soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP and has achieved the remedial objectives.

The system currently includes three radon fans on dedicated discharge pipes for each collection header extending above the roofline. Remote telemetry sensors are installed on the system. GEI performed post-modification indoor air sampling on May 23 and 24, 2015. VOCs were not detected above laboratory reporting limits during the indoor air sampling, indicating that the system as modified continues to meet the remedial objectives.

GEI will continue to inspect and maintain the system and continue operation and monitoring under ROS.

Residential and Commercial Properties

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended CRA. With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and an IRAC Report Amendment. In accordance with the MCP (310 CMR 40.0427), "mitigation of Critical Exposure Pathway(s) is continuing by incorporation of ongoing response actions to address the Critical Exposure Pathway(s) into the Phase IV Remedy Implementation Plan for the disposal site." Following the submittal of the IRAC Report and IRAC Report Amendment, therefore, all further response actions, including mitigation of any CEPs at the Site, have been conducted in accordance with the Phase IV RIP. Construction and implementation of the CRA has been completed. OMM activities, including operation of active remedial systems and active EPMMs (AEPMMs), continue to be conducted under Phase V ROS or are being implemented as Partial Permanent Solutions Statements (PSSs) with Conditions.

Following is a summary of activities conducted and results obtained with respect to EPMMs through June 15, 2023:

- EPMMs have been installed in 21 residential and commercial properties, not including the EPMMs installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. One EPMM (at 103 Washington Street) was removed as part of redevelopment when the building was vacant and demolished. The results of post-EPMM installation indoor air sampling indicate that the remaining 20 EPMMs have achieved the remedial objectives. Additionally, an EPMM has been installed in a new multi-family development at 31 Tufts Street and efficacy testing is planned.
- The property at 103 Washington Street is being redeveloped as a mixed-use building with commercial space and open-air parking on the first floor and residential units above. As of June 2023, the new building at 103 Washington Street is in the final stages of construction with only the interior finishes and exterior landscaping/paving to be completed. GEI has started conducting a vapor intrusion evaluation at the property.
- The property at 105 Washington Street has been redeveloped as a mixed-use building with commercial space and open-air parking on the first floor and residential units above. Construction activities were completed in June 2022, and the building is occupied. An EPMM was not installed. GEI conducted indoor air and sub-slab soil vapor sampling at 105 Washington Street in March 2022, February 2023, and May 2023. The sampling results indicated that the vapor intrusion pathway is unlikely to be of concern under current and future conditions. Additional sampling is not planned for 105 Washington Street.
- The property at 31 Tufts Street, formerly a paved parking lot, is being redeveloped with multi-family housing. The development is a three-story residential apartment building with surface parking and public open space. MassDEP assigned RTN 3-37468 to the 31 Tufts Street property based on concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals exceeding the applicable MassDEP reportable concentrations in soil (RCS-1) standards. These conditions are not attributable to the 50 Tufts Street Site. On July 25, 2022, GEI submitted a RAM Plan on behalf of the owners for response actions associated with construction, including soil management and installation of a vapor barrier and a sub-slab ventilation piping network beneath the building. In September 2022, GEI observed the installation of a vapor barrier and a sub slab ventilation piping network beneath the building. In October 2022, GEI observed a smoke test to confirm barrier integrity. GEI is coordinating with the owner and developer of the property to perform a vapor intrusion evaluation at the property following the completion of building construction.

- The property at 121 Washington Street is being redeveloped into residential apartment units. A small commercial building occupied formerly property and was demolished in 2020. As of June 2023, the framework and construction of the exterior walls have begun. GEI is coordinating with the owner and developer of the property to incorporate vapor mitigation components into the building construction.

- GEI conducted seven EPMM inspections during this reporting period in the months of January and March 2023. GEI was unable to access several of the residential properties but will continue its attempts to obtain access for EPMM inspections at these properties during the next reporting period.
- ARCADIS U.S., Inc. (ARCADIS) prepared an Updated 2015 Method 3 Risk Characterization, which incorporated updated soil, groundwater, and indoor air data sets, and included updated MassDEP toxicity information, particularly for PCE and TCE. Based on the Updated 2015 Method 3 Risk Characterization, the performance of individual EPMMs, and a review of indoor air sampling results for samples collected since the Updated 2015 Method 3 Risk Characterization, a condition of NSR exists for current and future building occupants at each property within the Site.
- A Permanent Solution with Conditions Statement will be submitted for each property with an active or passive EPMM, where the EPMM has achieved the remedial objectives, an AUL has been recorded for the property, and sufficient post-EPMM indoor air sampling has been conducted. The filing of a Partial PSS with Conditions for an individual property documents the achievement of regulatory closure under the MCP for that property. Therefore, the Phase V provisions will not apply to properties for which a Partial PSS with Conditions has been submitted. During the reporting period, a Partial PSS without Conditions was submitted for 90-102 Washington Street.

60 Tufts Street

An SSDS has been installed in the 17-unit condominium building at 60 Tufts Street. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air testing results indicate that a condition of NSR has been achieved for building occupants at 60 Tufts Street. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP and has achieved the remedial objectives.

Remote telemetry was installed on the system on July 24, 2015. GEI will continue to inspect and maintain the system. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum) at the headers on a quarterly basis. GEI will continue operation and monitoring of the SSDS at 60 Tufts Street under ROS.

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the AEPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing. In accordance with MassDEP's 2016 VI Guidance, GEI has initiated a closure indoor air testing program at 60 Tufts Street. However, this testing was suspended during the COVID-19 pandemic. The unit GEI had been testing was sold and GEI has not been able to make contact with the new owner.

50 Tufts Street Property

An SSDS and an SVE system have been installed at the Property. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. The building is currently occupied by several tenants. Based on indoor air testing results collected since the combined system has been in operation, a condition of NSR has been achieved for the building at the Property for full-time commercial workers. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP and has achieved the remedial objectives. GEI will continue operation and monitoring of the combined SSDS/ SVE system at 50 Tufts Street under ROS.

Remote telemetry was installed on the 50 Tufts Street system on April 14, 2015. The telemetry system at 50 Tufts Street consists of a wireless remote monitoring hub that receives telemetry notification from the other AEPMMs throughout the Site. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum, off-gas treatment efficiency) quarterly, and monitors for off-gas treatment efficiency monthly.

The combined SSDS/SVE system installed at the Property serves to protect indoor air quality and to remove source material from the vadose zone below and around the building. Monitoring data from both the SSDS and SVE components through June 15, 2023 show that approximately 9,380 of VOCs have been removed from the vadose zone at the Property. GEI will continue operation and monitoring of the combined SSDS/SVE system at 50 Tufts Street under ROS.

Future Activities and Impact of 2014 MCP Amendments for AEPMMs

Current MCP requirements for AEPMMs implemented to meet the conditions for ROS (310 CMR 40.1026), include an operating regime for the active system and remote monitoring and automatic notification in the event of system failure. Operating regimes for active systems at the Site were included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011 and included an OMM plan for the active systems.

The MCP requires that remote telemetry provide the owner and operator of the building and MassDEP notification upon failure of the system. Remote telemetry has been installed at

each property with an AEPMM including the Capuano Center, except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is currently infeasible to install telemetry at this property.

MassDEP has indicated that the upcoming MCP changes may include a revision to the telemetry reporting requirements. GEI has retained Integrasense to evaluate any necessary system modifications, and to support system maintenance, that may be required.

GLX Project

The MBTA, through its contractor GLX Constructors, has substantially completed work to extend MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. This Green Line Extension (GLX) Project includes significant infrastructure improvements near the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way (ROW), a new train station, and utility improvements.

The MBTA, GLX Constructors, and their contractors have initiated three Release Tracking Numbers (RTNs) related to construction activities undertaken at the Site:

- RTN 3-30620: A Special Project Designation (SPD) for the entire project.
- RTN 3-35528: A Utility-related Abatement Measure (URAM) for managing potentially contaminated soil and groundwater associated with installing a stormwater conveyance system within and adjacent to the MBTA ROW, and the demolition and replacement of the existing Washington Street Pump Station.
- RTN 3-34742: A Release Abatement Measure (RAM) for management of CVOC impacted soil encountered during GLX Project activities within Site boundaries.

GEI has not been provided with timely information concerning project plans, field work, or MCP submittals by the MBTA and GLX Constructors. GEI has reviewed and evaluated the soil characterization and groundwater data publicly available for RTNs 3-34742, 3-30620, and 3-35528, and analytical results for soil disposal pre-characterization samples collected within the MBTA ROW. The soil characterization data have no impact on the previous risk characterization conclusions or remedial alternatives selected for the Site. However, upon review of the data, GEI made a minor adjustment to the Site boundary in Phase V Status Report No. 17, to include a portion of the MBTA ROW near Cross Street where very low PCE concentrations were detected in soil samples collected for construction purposes.

Monitored Natural Attenuation

GEI conducts groundwater sampling once per year at 18 monitoring wells at the Site to confirm that the overburden and bedrock groundwater plumes remain stable. Monitoring wells MW104 and SHMW2 were included in prior annual groundwater sampling events. The wells were destroyed, however, by the MBTA's contractor as part of the GLX Project. On a semi-annual basis, GEI has been monitoring concentration fluctuations in MW122, MW112A, MW121D, and MW118D. Groundwater concentrations measured at these wells have typically been within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. Generally, results from the 18 monitoring wells sampled as part of the MNA program indicate that the groundwater plumes are stable. However, an increase in PCE and TCE concentrations in overburden monitoring well MW122 has been noted (1,700 µg/L and 170 µg/L, respectively in April 2023) while downgradient overburden monitoring wells MW118S and MW121S remain non-detect for PCE and TCE. This suggests that the plume remains stable despite increased concentrations at MW122. MW122 is adjacent to 97 Franklin Street. While historic soil vapor and indoor air monitoring at the property did not warrant the installation of an EPMM, GEI has contacted the homeowner at 97 Franklin Street via certified letter for access to the property to return and conduct soil vapor and indoor air monitoring at the residence.

GEI will perform additional groundwater sampling in November 2023.

Remedial Monitoring Report No. 39

Remedial Monitoring Report No. 39, documenting OMM activities of active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

1. Introduction

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 24 and Remedial Monitoring Report (RMR) No. 39 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site; Fig. 1-1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts (Fig. 1-2). The Site has been in Remedy Operation Status (ROS) for approximately 11 years. This Phase V Status Report No. 24 covers the period from December 16, 2022 to June 15, 2023.

1.1 Contact Information

Entity Undertaking Response Actions
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

Licensed Site Professional (LSP):
Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781-721-4012
LSP License No. 9719

Entity who will own, operate, and/or maintain the selected Remedial Action Alternative (RAA):
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887
978-658-8888

Contact Person
Catherine Malagrida, P.G.
Environmental Compliance Manager
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887
978-658-8888 ext. 0587

1.2 Background

In 2002, a release of chlorinated volatile organic compounds (VOCs) (particularly tetrachloroethylene [also known as perchloroethylene (PCE)], trichloroethylene [TCE], and 1,1,1-trichloroethane [TCA]) to soil and groundwater at the Property was reported to the MassDEP and assigned RTN 3-23246. Three other RTNs were subsequently issued for the Site: 3-24358, 3-24376, and 3-26114. For tracking and reporting purposes, these RTNs have been consolidated under RTN 3-23246.

The detection of chlorinated VOCs in indoor air at some buildings within the Site required the implementation of an Immediate Response Action (IRA). The "Immediate Response

Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report," (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011. The Site was reclassified as Tier II on August 1, 2014.

The Phase II/Phase III identified the following areas of the Site requiring investigation and mitigation:

- The Property;
- The Capuano Center;
- 60 Tufts Street, a 17-unit condominium building north of the Property; and
- Certain residences and commercial buildings located near the Property.

The RAA selected by the Phase III was:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove compounds of potential concern (COPCs) from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or

passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended Comprehensive Response Action (CRA). With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and IRAC Report Amendment, in accordance with the MCP, particularly 310 CMR 40.0427 ("mitigation of Critical Exposure Pathway(s) is continuing by incorporation of ongoing response actions to address the Critical Exposure Pathway(s) into the Phase IV Remedy Implementation Plan for the disposal site"). Following submittal of the IRAC Report and IRAC Report Amendment, all further response actions were continued under Phase IV and Phase V.

The CRA for the Site includes continued active operation and maintenance of the existing commercial and residential EPMMs, and the SSDS and SVE system at the Property, to achieve a Permanent Solution pursuant to 310 CMR 40.0890. It is GEI's opinion that the Site meets the requirements for ROS in accordance with the MCP (310 CMR 40.0893[2]):

- The Phase III RAP was completed on July 14, 2008. The Phase IV RIP was completed on August 10, 2009.
- A final inspection has been performed and confirmed that the CRA has been constructed and implemented in accordance with the Phase IV RIP and is meeting projected design standards to achieve a Permanent Solution.
- Each source of oil and/or hazardous material (OHM) is controlled at the Site. Non-aqueous phase liquid (NAPL) is not visibly present at the Site. Any dense non-aqueous phase liquid (DNAPL) that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. The dissolved-phase groundwater plumes and vapor plumes are stable and are not causing an increase in concentrations of VOCs in groundwater, soil, soil vapor, or indoor air. There are no unpermitted releases of OHM at the Site.
- Any substantial hazards have been eliminated as documented in the Substantial Hazard Evaluation (SHE) completed by ARCADIS U.S., Inc. (ARCADIS) of Chelmsford, Massachusetts in August 2011. ARCADIS also completed a Site-wide Method 3 Risk Characterization in August 2015, and GEI routinely performs Method 3 risk screening for additional indoor air data collected since 2015. Based on these risk evaluations, and based on the performance of individual EPMMs, a condition of NSR exists for current and future building occupants at each property within the Site.
- GEI has identified the longest duration of a shutdown of each active EPMM (AEPMM) that would be consistent with levels of exposure that do not pose an Imminent Hazard (IH) and poses a condition of NSR.

Construction and implementation of the CRA have been completed; additional activities, such as operation and monitoring of active remedial systems, or installation of new EPMMs, will be conducted under Phase V. The Site will operate in ROS until a Permanent Solution is achieved, except for any portions of the Site that may be closed under Partial Permanent Solution Statements (PSSs) with Conditions. Operating the SSDS and SVE systems, together with MNA, will ultimately achieve a Permanent Solution for the Site.

GEI will continue to conduct annual operation, maintenance, and/or monitoring (OMM) activities for installed EPMMs where sufficient indoor air sampling has been conducted, and not repeat indoor air testing, to confirm continued system effectiveness. GEI also conducts groundwater sampling and analysis as part of the MNA program.

1.3 Purpose and Scope

The Site entered Phase V with the submittal of the Phase IV FIR/Phase V ROS on August 4, 2011. In accordance with the MCP (310 CMR 40.0892), this Phase V Status Report No. 24 and RMR No. 39 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of OMM activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the reporting period that are or may be affecting the performance of the remedial action.
- A description of the measures taken to correct any conditions or problems that may have been encountered during the reporting period.
- The name, license number, signature, and seal of the LSP.

This report covers the period from December 16, 2022 through June 15, 2023. Details of the engineering concepts, design criteria, construction plans, and specifications were previously provided to MassDEP as part of the Phase IV RIP, IRA Status Reports, RMRs, and IRA Plan Modifications and are not revisited in this report.

1.4 Public Involvement (310 CMR 40.1400)

UniFirst and GEI conducted a series of community meetings to inform property owners, residents, and City of Somerville (the City) officials about the Site. GEI will provide copies

of this Phase V Status Report No. 24 and RMR No. 39 to the local public document repositories that were established for the Site at the Somerville Central Public Library and at the City of Somerville Clerk's Office.

This report was submitted through eDEP (Transaction No. 1587049) on August 2, 2023. A draft copy of the eDEP Transmittal Form (BWSC-108) is provided in Appendix A.

Copies of property owner notification letters, including notice of sampling letters, chemical testing results letters, and other miscellaneous correspondence sent during the reporting period, are in Appendix B.

2. GLX Project

2.1 Background

The Massachusetts Bay Transit Authority (MBTA), through its contractor GLX Constructors, has substantially completed to extend MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. The GLX Project includes significant infrastructure improvements near and through the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way (ROW), a new train station, and utility improvements. The MBTA, GLX Constructors, and their contractors have initiated three RTNs related to construction activities undertaken at the Site. Chris McDermott of TRC Environmental of Lowell, Massachusetts, a subcontractor to GLX Constructors, is the LSP of Record for GLX Construction.

2.2 GLX RTNs

The MBTA, GLX Constructors, and their contractors have initiated three RTNs related to construction activities undertaken at the Site.

2.2.1 RTN 3-34742

On January 23, 2018, MBTA filed a Release Notification Form (RNF) for concentrations of PCE detected in the wet well within the pump station located at 132 Washington Street. MassDEP issued RTN 3-34742. On April 25, 2019, MassDEP issued MBTA a Notice of Noncompliance for failure to submit a Permanent Solution Statement, Tier Classification Submittal, or Downgradient Property Status (DPS) Submittal within one year of the RNF. In June 2019, Weston & Sampson, on behalf of MBTA, filed a DPS Submittal attributing conditions reported in the RNF to the Site.

On July 11, 2019, TRC, on behalf of GLX Constructors, filed a RAM Plan under RTN 3-34742 for management of CVOC impacted soil encountered during GLX Project activities within Site boundaries. According to TRC, up to 14,000 cubic yards of CVOC impacted soil were to be managed under this separate RAM. TRC conducted in-situ soil sampling along the MBTA ROW behind the 50 Tufts Street building. Concentrations of PCE were detected up to 14 ppm.

On November 15, 2019, TRC filed RAM Status Report No. 1. The report states that between July and September 2019 approximately 11,680 tons of soil were transported off-site and disposed of as hazardous waste to Heritage Environmental Services landfill in Roachdale, Indiana. Although the soil was characterized as hazardous waste, it was stored off-site for

more than 90 days prior to disposal. According to TRC, a Utility-related Abatement Measure (URAM) completion report for RTN 3-35528 (Section 2.2.3) was submitted on August 7, 2019.

On May 15, 2020, TRC filed RAM Status Report No. 2. The report states that between October 2019 and March 2020 approximately 5,124 tons of soil were transported off-site and disposed of as hazardous waste to Heritage Environmental Services landfill in Roachdale, Indiana.

On February 14, 2020, GLX obtained MassDEP's approval of a Contained-In Determination Petition to reclassify excavated soil with concentrations of chlorinated VOCs less than the MCP S-1/GW1 standard as non-hazardous waste. Nonetheless, TRC reported that all excavated soil was transported off-site as listed hazardous waste.

On November 10, 2020, TRC filed RAM Status Report No. 3. The report states that between April and August 2020 approximately 1,576 tons of soil were transported off-site and disposed of as hazardous waste at Heritage Environmental Services landfill in Roachdale, Indiana.

On September 21, 2020, GLX obtained MassDEP's approval of a Contained-In Determination No.2 Petition to reclassify excavated soil with concentrations of chlorinated VOCs less than the MCP S-1/GW1 standard as non-hazardous waste. According to the RAM Status Report, between March and August 2020 approximately 2,107 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts, including soil managed under the Contained-In Determination.

On May 10, 2021, TRC filed RAM Status Report No. 4. According to the RAM Status Report, between October 10 and October 13, 2020 approximately 960 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts. In December 2020, approximately 408 tons of soil were transported to Allied Niagara Falls Landfill, in Niagara Falls, New York.

On October 27, 2021, TRC filed RAM Status Report No. 5. According to the RAM Status Report, between February 22 and August 24, 2021, approximately 4,387 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts. Between April 23 and August 16, 2021, approximately 362.5 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York. TRC noted in the RAM Status Report that this total does not include the tonnage report for soil shipped on July 20 and July 21, 2021.

On May 6, 2022, TRC filed RAM Status Report No. 6. According to the RAM Status Report, on July 20 and July 21, 2021, a total of 15.03 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York, the final weights were previously missing from the RAM Status Report No. 5. Between September 6, 2021 and November 4, 2021, a total of 545.63 tons of soil were transported off-site to Allied Niagara Falls Landfill,

in Niagara Falls, New York. On December 17, 2021 6.46 tons of soil were transported off-site to Lynn Landfill, in Lynn, Massachusetts. On February 2 and February 3, 2022, five loads (approximately 100 cubic yards) of soil were transported to Heritage Environmental Services in Roachdale, Indiana for disposal. The soil was generated during grading and trenching activities within the RAM Area. The disposal documents were not included in TRC's RAM Status Report No. 6.

On October 6, 2022, TRC filed RAM Status Report No. 7. On February 2 and February 3, 2022, 145.31 tons of soil were transported to Heritage Environmental Services in Roachdale, Indiana for disposal, the final weights were previously missing from the RAM Status Report No. 6. Additionally, on February 3, 2022, 27.07 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts. Between March 9 and March 15, 2022, a total of 519.77 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York. Between March 15 and May 25, 2022, 595.96 tons of soil were transported off-site to Lynn Landfill, in Lynn, Massachusetts.

On May 15, 2023, TRC filed RAM Status Report No. 8. On October 5, 2022, approximately 84.53 tons of soil was transported off-site to Lynn Landfill, in Lynn, Massachusetts. On October 26, 2022, approximately 17.95 tons of soil were transported off-site under a Non-Hazardous Waste Manifest to Allied Niagara Falls Landfill, in Niagara Falls, New York. Between January 12 and February 1, 2023, approximately 270.97 tons of soil was transported off-site to Winchendon Landfill, in Winchendon, Massachusetts.

2.2.1.1 Contained-In Determinations

It is our understanding that soil excavated as part of the Washington Street pump house installation (RTN 3-34742) was transported and used as part of a clean soil cap at the Vehicle Maintenance Facility (VMF). The Washington Street pump house is within the boundaries of the Site (RTN 3-23246). The VMF is not. We have reviewed the Contained-In Determinations prepared by TRC on behalf of GLX Constructors for the MBTA GLX project. The following summary is based on that review; however, we have significant uncertainty since the Contained-In Determinations do not clearly explain the timeline or soil management procedures. The Contained-In Determinations are in App C.

According to a Contained-In-Determination dated February 26, 2021 that GLX Constructors submitted to MassDEP for the VMF, soil from construction of the pump house (RTN 3-34742) may have been stockpiled at the VMF for some time before it was used in the construction of a clean soil cap beginning in 2018. Subsequently, in October 2020, soils were generated from within the VMF cap during grading and utility excavation activities and were stockpiled. The stockpiled soils were sampled and concentrations of PCE and TCE were detected above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards for a Contained-In Determination.

GLX prepared a total of three Contained-In Determinations (February 26, April 8, and April 26, 2021) for the stockpiled soils. It is unknown if the soils were reused on the VMF site or disposed off-site.

TRC submitted an additional Contained-In Determination on May 26, 2021 for soil generated near the Washington Street Pump Station and on the MBTA ROW. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard.

TRC submitted an additional Contained-In Determination on June 30, 2021, for approximately 40 cubic yards of soil generated at the VMF during utility excavations within the soil cap. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard.

TRC subsequently submitted nine additional Contained-In Determinations (July 23, November 15, November 15, and December 17, 2021, and January 20, March 3, April 25, September 8, and November 17, 2022) for soil generated near the Washington Street Pump Station. A summary of each Contained-In Determination is below:

- Soil included in the July 23, 2021, Contained-In Determination was generated at the Washington Street Pump Station during utility manhole excavations; the soil sample was collected from a stockpile (~340 cubic yards), and soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard.
- Contained-In Determination No. 5 dated November 15, 2021 was prepared for stockpiled soil (~500 cubic yards) generated during the excavation and removal of an Underground Storage Tank (UST) at the Washington Street Pump Station. Concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard were detected in one of the four soil samples collected.

  On January 10, 2022, TRC submitted a clarification letter to MassDEP, stating that the soil subject to the Contained-In Determination was generated in association with the removal of a UST (RTN 3-36931) and that shipping documents would be filed under both RTN 3-34742 and 3-36931.
- A Contained-In Determination dated November 15, 2021 was prepared for stockpiled soil (~20 cubic yards) generated from the cleanup of runoff sediment at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE, 1,1,1-TCA, and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.

- A Contained-In Determination dated December 17, 2021 was prepared for stockpiled soil (~40 cubic yards) generated from the clean-out of the Washington Street Pump Station House. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- On January 20, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 400 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- On March 3, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 120 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- On April 25, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 60 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- On September 8, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 80 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- A Contained-In Determination dated November 17, 2022 was prepared for stockpiled soil (~260 cubic yards) generated from site landscaping at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.

2.2.2 RTN 3-30620

On July 18, 2019, TRC, on behalf of GLX Constructors, filed RAM Status Report No. 7, under the Special Project Designation (SPD) RTN 3-30620. According to TRC, approximately 5,440 cubic yards of soil were excavated from within the Site boundary as part of GLX Project activities conducted under the SPD. TRC stated in RAM Status Report No. 7 that soil to be excavated in the future would be managed under a different RAM Plan

submitted under RTN 3-34742. The Report also stated that dewatered groundwater would be managed under a URAM under RTN 3-35528.

2.2.3 RTN 3-35528

On April 12, 2019, TRC, on behalf of GLX Constructors, filed a URAM Plan for managing potentially contaminated soil and dewatered groundwater associated with installing a stormwater conveyance system within and adjacent to the MBTA ROW and the demolition and replacement of the existing Washington Street Pump Station. TRC estimated up to 6,000 cubic yards of soil would be generated under the URAM.

On August 7, 2019, TRC filed a URAM Completion Report for RTN 3-35528. The report stated that 1,950 cubic yards of soil were excavated and managed under the URAM. Some of the soil was stockpiled within the ROW and some was transported offsite and stockpiled at an unidentified MBTA-owned property. The report also stated that off-site disposal of a portion of this stockpiled soil to an unidentified out-of-state hazardous waste landfill began on or about July 14, 2019. Disposal of the stockpiled soil was expected to take 45 days.

In the URAM Completion Report, TRC states that all future soil originating from the Site and the ROW adjacent to the Site would be managed under the July 2019 RAM Plan for RTN 3-34742, and that all disposal documentation related to soil, sediment and granulated activated carbon (GAC) change outs would be submitted in RAM Status Reports for RTN 3-34742.

2.2.4 Soil Characterization Data from MBTA ROW and Washington Street

On December 23, 2019 the MBTA provided UniFirst with a copy of a letter from Michael Clark, P.E. LSP, BSC Group of Boston, Massachusetts addressed to Andrew Friedmann, PhD of the MassDEP providing analytical results for soil disposal pre-characterization samples collected for construction purposes within the MBTA ROW between October 20 and November 6, 2019. The ROW sample locations are on Fig. 2-1, and a summary of the soil analytical results are in Appendix C.

In February and March 2020, GLX Constructors collected pre-characterization samples for construction purposes beneath the Washington Street bridge and along the ROW as documented in RAM Status Report No. 2 for RTN 3-34742. The sampling locations are on Fig. 2-1 and a summary of the soil analytical results are in Appendix C.

In April 2020, GLX Constructors collected pre-characterization samples for construction purposes on the 50 Tufts Street property near the northwest corner of Tufts Street and Washington Street and within Washington Street as documented in RAM Status Report No. 3 for RTN 3-34742. The sampling locations are on Fig. 2-1 and a summary of the soil analytical results are in Appendix C.

Between July 17 and August 18, 2020 GLX Constructors collected pre-characterization samples for construction purposes from stockpiles generated during excavation of manholes on the 50 Tufts Street property and from within the project ROW as documented in RAM Status Report No. 3 for RTN 3-34742. A summary of the soil analytical results are in Appendix C.

On April 8, 2021, GLX Constructors collected a sample from an excavation at the Washington Street pump station and two soil samples from stockpiles generated during pump station utility excavations. The samples were collected to update characterization data to facilitate the disposal of soil as documented in the May 2021 Contained-In Determination and RAM Status Report No. 5 for RTN 3-34742. The sampling locations are on Fig. 2-1 and a summary of the soil analytical results are in Appendix C.

Between April 23 and June 10, 2021, TRC collected pre-characterization samples for construction purposes from stockpiles generated during excavation of utility lines and utility manholes within the project RAM Area as documented in RAM Status Report No. 5 for RTN 3-34742. A summary of the soil analytical results is in Appendix C.

On October 7, 2021, TRC collected a pre-characterization sample from a stockpile generated during the removal of a UST in connection with IRA activities. The soil samples were included in RAM Status Report No. 6, and the IRA RTN (3-36931) was linked to RTN 3-34742 due to the detection of PCE in the soil stockpile. A summary of the soil analytical results is in Appendix C.

Between October 22 and November 9, 2022, TRC collected two pre-characterization samples for construction purposes from soil generated during the clean-out of the Washington Street Pump House as documented in RAM Status Report No. 6 for RTN 3-34742. A summary of the soil analytical results is in Appendix C.

On November 11, 2022, TRC collected one pre-characterization sample for construction purposes from stockpiles generated during grading and trenching activities within the RAM Area as documented in RAM Status Report No. 6 for RTN 3-34742. The stockpile characterized was approximately 140 cubic yards. The soil was characterized for disposal at Heritage Environmental Services, in Roachdale, Indiana. A summary of the soil analytical results is in Appendix C.

Between December 20, 2021 and January 12, 2022, TRC collected two pre-characterization samples for construction purposes from stockpiled soil generated during grading activities in the RAM Area as documented in RAM Status Report No. 6 for RTN 3-34742. A summary of the soil analytical results is in Appendix C.

On March 11, 2022, TRC collected one characterization sample for construction purposes from stockpiled soil generated during installation of a gas line as documented in RAM Status Report No. 7 for RTN 3-34742. The stockpile characterized was approximately 60 cubic yards. The soil was characterized for disposal at Lynn Landfill, in Lynn, Massachusetts. A summary of the soil analytical results is in Appendix C.

On July 27, 2022, TRC collected one characterization sample for construction purposes from stockpiled soil generated during grading activities at the Washington Street Pump Station as documented in RAM Status Report No. 7 for RTN 3-34742. The stockpile characterized was approximately 80 cubic yards. The soil was characterized for disposal at Lynn Landfill, in Lynn, Massachusetts. A summary of the soil analytical results is in Appendix C.

On November 3, 2022, TRC collected one characterization sample from stockpiled soil generated during landscaping activities as documented in RAM Status Report No. 7 for RTN 3-34742. The stockpile characterized was approximately 260 cubic yards. The soil was characterized for disposal at Winchendon Landfill, in Winchendon, Massachusetts. A summary of the soil analytical results is in Appendix C.

3. Current Conceptual Site Model and Disposal Site Boundary

As defined in the MCP, the Conceptual Site Model (CSM) is a "dynamic framework for assessing site characteristics and risk, identifying and addressing data gaps and managing uncertainty, eliminating or controlling contaminant sources, developing and conducting response action strategies, and evaluating whether those strategies have been effective in achieving desired endpoints." (310 CMR 40.0006). GEI has developed and continued to update the CSM for the Site as appropriate based upon the investigation data documented in previous reports, including the Phase II Comprehensive Site Assessment, Immediate Response Action (IRA) Plan and Status Reports, the Phase IV Remedy Implementation Plan (RIP), and prior Phase V Remedy Operations (ROS) Status Reports. In Phase V Status Report No. 17, GEI updated the CSM and Disposal Site Boundary to include a portion of the MBTA ROW near Cross Street where de minimis PCE concentrations were detected in soil samples collected for construction purposes.

4. Data Collection

4.1 Groundwater Sampling

GEI conducted semi-annual groundwater sampling at 18 monitoring wells in April and May 2023. The groundwater samples were analyzed by Alpha Analytical (Alpha) or Westborough, Massachusetts for VOCs and as applicable Monitoring Natural Attenuation (MNA) parameters. A summary of all GEI groundwater sampling activities at the Site, including dates of sampling during this reporting period, is in Table 4-1. The groundwater testing results are summarized in Table 4-2, along with groundwater data from previous investigations. Groundwater sampling conducted on behalf of the MBTA between 2012 and 2014 by Kleinfelder, and in 2020 by TRC, as part of the GLX Project is summarized in Table 4-3.

Monitoring well locations and the monitoring wells sampled by GEI during this reporting period are shown in Fig. 4-1. The laboratory data report associated with the April and May 2023 groundwater testing is in Appendix D.

4.2 Comparison of PCE Concentrations to GW-2 Standards

Fig. 1-2 presents the disposal site boundary, based on laboratory analytical results for environmental samples collected through May 2023. Fig. 1-2 also delineates the areas in which concentrations of PCE in shallow groundwater (i.e., 15 feet or less) exceed current and pending Method 1 GW-2 standards, based on Site-wide groundwater sampling results through May 2023.

The current Method 1 GW-2 standard for PCE in shallow groundwater is 50 micrograms per liter (µg/L). MassDEP published proposed revisions to the MCP on April 19, 2019, which have yet to be promulgated; these draft regulations would change the Method 1 GW-2 standard for PCE to 20 µg/L. Fig. 1-2 shows the extent of PCE in shallow groundwater exceeding the proposed Method 1 GW-2 standard, which is not significantly different from the extent of PCE in shallow groundwater exceeding the current GW-2 standard (50 µg/L). Extensive sub-slab soil vapor and indoor air testing has been performed at the properties that are within the area where PCE in shallow groundwater exceeds 20 µg/L, except for 159 Glen Street, where the owner has been unresponsive to access request letters and property visits seeking access to conduct sampling. We do not anticipate that additional investigation will be required if the Method 1 GW-2 standard for PCE is reduced to 20 µg/L.

4.2.1 Groundwater Plume Stability

Based on historic groundwater sampling conducted since 2006, the nature and extent of groundwater contamination at the Site has been well-characterized. In addition, groundwater analytical results are incorporated into the MNA program to support the plume stability monitoring and natural attenuation evaluation, as discussed in Section 9

4.3 Soil Vapor Sampling

From January 2006 through June 15, 2023, GEI collected soil vapor samples at 58 residences and commercial buildings. Fig. 4-2 shows buildings where GEI conducted soil vapor sampling. The procedure for collecting soil vapor samples was in IRA Status Report No. 3. Samples typically were collected from below the basement slab.

During this reporting period, GEI collected sub-slab samples from three residential properties (9 Knowlton Street, 13 Knowlton Street, and 10 Morton Street) and from two mixed-use properties (103 Washington Street and 105 Washington Street). The sub-slab soil vapor samples were submitted to Alpha or Contest of East Longmeadow, Massachusetts for laboratory analysis by EPA Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The sub-slab soil vapor testing results are in Table 4-4 (9 Knowlton Street), Table 4-5 (13 Knowlton Street), Table 4-6 (10 Morton Street), Table 4-7 (103 Washington Street), and Table 4-8 (105 Washington Street). The laboratory data report is in Appendix D.

4.4 Soil Vapor Sampling – Checklists and Methods

GEI collected sub-slab soil vapor samples from 9 Knowlton Street, 13 Knowlton Street, 105 Washington Street, 10 Morton Street, and 103 Washington Street. New monitoring points were installed at 9 Knowlton Street, 13 Knowlton Street, 10 Morton Street, and 103 Washington Street during this reporting period. Sub-slab soil vapor samples were collected to evaluate the concentrations of chlorinated VOCs in soil vapor beneath the buildings. GEI collected soil vapor samples using SUMMA® canisters and regulators provided by Alpha or Contest. Each canister was certified clean. Copies of the certifications are in Appendix D. The soil vapor samples were collected over a 1-hour period.

Flow regulators were attached to the SUMMA® canisters at the location of the testing. The laboratory-set flow regulator was then turned on, and the starting pressure and time recorded.

The regulator was turned off before reaching ambient pressure, and the final pressure and time were recorded. Sub-Slab Monitoring Point Installation Log, Pre-Sampling Checklists, and Sub-Slab Sampling Checklists completed for the sub-slab soil vapor samples collected during this reporting period are in Appendix E.

4.5 Indoor Air Sampling

From January 2006 through June 15, 2023, GEI collected indoor air samples at 75 residences and commercial buildings. Fig. 4-2 shows buildings where GEI conducted indoor air sampling. The procedure for collecting indoor air samples was in IRA Status Report No. 3. Samples are typically collected from the basement and first floor of each building.

Between December 16, 2022 and June 15, 2023, GEI collected indoor air samples from two residential properties (9 Knowlton Street and 13 Knowlton Street) and 103 Washington Street and 105 Washington Street. 103 Washington Street and 105 Washington Street are new developments replacing an auto repair shop and a multi-family residence. Both buildings are mixed-use developments with commercial space and open-air parking on the first floor and residential units above.

The indoor air samples were submitted to Alpha for laboratory analysis by EPA Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The recent and historical indoor air testing results are in Table 4-9 (9 Knowlton Street), Table 4-10 (13 Knowlton Street), Table 4-11 (103 Washington Street), and Table 4-12 (105 Washington Street). The laboratory data report is in Appendix D.

4.6 Indoor Air Sampling – Checklists and Methods

GEI collected indoor air samples from the first floor and the basement of residences using SUMMA® canisters and regulators provided by Alpha. Each canister was certified clean by Alpha. Copies of the certifications are in Appendix D. The indoor air samples were collected over an approximately 24-hour period.

Flow regulators were attached to the SUMMA® canisters at the location of the testing. The SUMMA® canisters were placed so that the air inlet was approximately 3 to 5 feet above the floor. The laboratory-set flow regulator was then turned on, and the starting pressure and time were recorded. The regulator was turned off before reaching ambient pressure, and the

final pressure and time were recorded. Pre-Sampling Checklists and Indoor Air Sampling Checklists completed for each indoor air sample collected during this reporting period are in Appendix E.

4.7 Meteorological Conditions

Measurements were taken with a portable barometer and thermometer during soil vapor sampling at and were recorded on the Indoor Air and Sub-Slab Sampling Checklists (Appendix E). Meteorological conditions recorded during indoor air sampling events for this reporting period are summarized in Table 4-13.

4.8 Sump Water Sampling

GEI collected one sample of water within the existing basement sump at 103 Washington using a peristaltic pump and submitted the sample to Alpha for VOC analysis. The sump water testing results are summarized in Table 4-14 and the laboratory data is in Appendix D.

5. Capuano Center

5.1 Background

The mitigation system at the Capuano Center is an SSDS with 18 sub-slab extraction points in six classrooms of the east wing. The interior slab/exterior wall joints of the six classrooms were sealed with a flexible epoxy sealant and extraction points were installed horizontally through the exterior wall. GEI began operating the SSDS on February 1, 2007.

The system sub-slab vapor extraction points are attached to three collection headers in exterior underground trenches, which are connected to three dedicated discharge pipes with radon fans for each collection header above the roofline of the Capuano Center. Remote telemetry on the system consists of two radio nodes and three pressure switches connected to the three radon fans to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system has been significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150: "Off-gas Treatment of Point-Source Remedial Air Emissions," dated 1994.

5.2 Remedial Objectives

The design objectives of the Capuano Center mitigation system were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the Capuano Center.

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system.

5.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in July 2015. Monitoring of system parameters at the headers (flow rate, vacuum, and photoionization detector [PID] readings) and PID readings at outdoor monitoring points are conducted quarterly. Inspection and monitoring at the Capuano Center were performed two times from December 2022 to June 2023. A summary of monitoring activities conducted during this reporting period is in Table 5-1 and the Field Monitoring Forms are in Appendix F.

5.4 System Modifications

No system modifications were made during this reporting period.

5.5 Performance Efficiency and Effectiveness

GEI has completed 24 rounds of indoor air sampling in the Capuano Center. The results of each round of sampling show that the system is meeting remedial design objectives (Table 5-2). Based on the indoor air testing results, and regularly collected system performance data, the soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. GEI has discontinued indoor air sampling and relies on monitoring of operating parameters for the system to confirm continued effectiveness.

5.6 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the subsurface collection header pipes, or the cleanout drain for the header pipes. If observed, SSDS condensate will be pumped from the headers into the cleanout, which drains into the subsurface at the property.

5.7 Future Phase V Activities

Based on indoor air testing results, a condition of NSR has been achieved for occupants of the Capuano Center and the system is achieving the remedial design objectives. Since remote telemetry is now installed on the system, GEI will continue to monitor operational parameters and sub-slab conditions for the system (e.g., flow rate, vacuum), and collect readings from all outdoor monitoring points quarterly, to confirm ongoing system performance. GEI discontinued monitoring at interior monitoring points in April 2016, and instead relies on vacuum monitoring at exterior monitoring points to evaluate system effectiveness. During monitoring events, GEI will also perform maintenance tasks, which may include draining accumulated water from the collection headers and correcting any issues observed during routine inspection of system components.

5.7.1 Longest Allowable Duration of AEPMM Shutdown

An operating regime and OMM plan for the Capuano Center AEPMM were included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 6 years for the Capuano Center system.

5.7.2 Regulatory Closure

As discussed further in Section 6.6, a Permanent Solution with Conditions can be achieved for properties where an AEPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution with Conditions Statement may be submitted to achieve regulatory closure for the Capuano Center if the owner of the property, the City of Somerville, executes an AUL.

6. Residential and Commercial Properties

6.1 EPMM Installation

Through June 15, 2023, EPMMs have been installed at 21 residential and commercial properties. EPMMs were also installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. The EPMMs at 50 Tufts Street, 60 Tufts Street, and the Capuano Center are discussed separately in this report.

That had been an EPMM in the former auto shop at 103 Washington which was demolished. An EPMM had not been installed in 105 Washington Street. 103 Washington Street and 105 Washington Street are mixed-use redevelopments with commercial space and open-air parking on the first floor and residential units above. 31 Tufts Street was a vacant lot and is being redeveloped as multi-family housing and an EPMM is being installed. 10 Morton Street is a single-family residence with an installed EPMM; it is currently being renovated and the EPMM will be replaced. Accordingly, there are currently 21 installed EPMMs at the Site.

6.1.1 103 and 105 Washington Street

The properties at 103 and 105 Washington Street are being developed into mixed-use commercial and residential buildings. Though originally being developed by separate owners, both properties are currently owned by Hodan Property Management (Hodan).

The building at 105 Washington Street was demolished between March and June 2019 and construction on the redevelopment began in July 2019. GEI attempted to contact the original developer but was unsuccessful. The development was completed by Hodan, the developer of 103 Washington Street. As of June 2022, construction was complete and the building is occupied.

GEI conducted indoor air and sub-slab soil vapor sampling at 105 Washington Street in March 2022, February 2023, and May 2023 (Table 4-12). Concentrations of VOCs were not detected above the MassDEP residential soil vapor screening values, or the residential indoor air Threshold Values (TVs) indicating that the vapor intrusion pathway is unlikely to be of concern under current or future conditions. Additional sampling is not planned for 105 Washington Street.

GEI reached out numerous times to Hodan regarding installing a vapor mitigation system at 103 Washington Street. Hodan did not agree to installation of a system, although did consent soil gas and indoor air testing. The building at 103 Washington Street is in the final stages of construction with only the interior finishes and exterior landscaping/paving to be completed.

In May 2023 GEI conducted indoor air and sub-slab soil vapor sampling. The indoor air sample collected on the first floor, did not exceed commercial or residential TVs. The first floor is commercial space and open-air parking with residential units above. Additional sampling is planned for summer 2023 and winter 2024.

6.1.2 31 Tufts Street

The property at 31 Tufts Street, formerly a paved parking lot, is being redeveloped as multi-family housing. 31 Tufts Street LLC and Tufts Glen Pocket Park LLC currently are joint owners of the property. E3 Development, Inc. is the Manager and designated developer. E3 Development is currently constructing a three-story residential apartment building with surface parking and public open space. MassDEP assigned RTN 3-37468 to the 31 Tufts Street property based on concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals exceeding the applicable MassDEP reportable concentrations in soil (RCS 1) standards. These conditions are not attributable to the 50 Tufts Street Site. On July 25, 2022, GEI submitted a RAM Plan on behalf of the owner for response actions in connection with construction, including soil management and installation of a vapor barrier and a sub-slab ventilation piping network beneath the building. In September 2022, GEI observed the installation of a vapor barrier and a sub slab ventilation piping network beneath the building. In October 2022, GEI observed a smoke test to confirm barrier integrity. GEI is coordinating with the owner and developer of the property to perform a vapor intrusion evaluation at the property.

6.1.3 121 Washington Street

The property at 121 Washington Street is being redeveloped into residential apartment units. A small commercial building and paved parking formerly occupied property. The building was demolished in October 2020. As of June 2023, the framework and construction of the exterior walls have begun. GEI is coordinating with the owner and developer of the property to incorporate vapor mitigation components into the building construction.

6.2 EPMM Status

Fig. 6-1 shows the buildings with EPMMs installed. Table 6-1 presents the as-built design information for each installed EPMM.

The EPMM designs are categorized as Option 1, Option 2, or Option 3, as conceptually defined below:

- Option 1 – SSDS: This option includes the installation of one or more sub-slab vapor extraction points and a collection piping network connected to an electric fan located outside the building envelope. The fan is equipped with a condensate bypass drain

and the fan exhaust is discharged above the eave line of the roof. To date, no SSDSs (except for the system at the Property) require off-gas treatment. This option is installed in buildings with adequate sub-slab air flow and a competent concrete slab, or those properties where vapor barrier and venting systems are infeasible.

- Option 2 – Vapor Trench: The vapor trench option is a sub-slab venting system installed in a shallow trench around the interior basement perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the slab and stucco walls. The trench is backfilled with crushed stone and finished with approximately three inches of new concrete to meet the existing slab surface. This option is installed in buildings with poor sub-slab air flow, a competent concrete slab, and a fieldstone and/or brick foundation. Sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.
- Option 3 – New Slab: The new slab installation option is a new concrete slab, a sub-slab vapor barrier, and a floor venting system; applying cement stucco to the walls; and applying an epoxy vapor barrier to the new slab and stucco walls. This option is installed in buildings with poor sub-slab air flow, an incompetent concrete slab, and a fieldstone and/or brick foundation. As with Option 2, sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.

The decision-making process for selecting a conceptual design based on Site-specific conditions is illustrated in Fig. 6-2. Table 6-1 identifies the design option for each EPMM currently installed and the primary engineering components of each.

6.2.1 Remedial Objectives

The design objectives of the EPMMs were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air in residential buildings.
- Achieve a condition of NSR for occupants of the residence or commercial building.

6.3 Option 1 EPMMs

Option 1 EPMMs consist of active sub-slab depressurization achieved by the installation of a radon fan and associated network of piping. Several of the Option 1 EPMMs were originally installed as Option 2 or Option 3 EPMMs; however, the concentrations of PCE measured in the post-installation indoor air did not constitute a condition of NSR, and a fan was installed. Option 1 EPMMs have been installed at the following 10 properties:

- 35-37 Knowlton Street (originally Option 3)
- 31-33 Knowlton Street
- 13 Morton Street
- 18 Morton Street
- 23 Tufts Street
- 103 Washington Street (deactivated May 31, 2017)
- 95 Franklin Street (originally Option 2)
- 9 Knowlton Street
- 13 Knowlton Street
- 27 Tufts Street (originally Option 3)

Prior to the MCP amendments effective June 20, 2014, these properties could not achieve a Permanent Solution because of the operation of an active system. These properties can now achieve regulatory closure with a Partial PSS with Conditions, provided that the property owner executes an AUL. The condition associated with the PSS would be operation and maintenance of the AEPMM in accordance with the AUL.

6.3.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 1 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected one time per winter for two consecutive years. In accordance with MassDEP guidance, "WSC No. 16-435: Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure," dated October 14, 2016 (2016 VI Guidance), GEI modified the post-installation indoor air sampling for newly installed Option 1 EPMMs to demonstrate effectiveness. Once a pressure differential has been established, one round of indoor air sampling is performed during the heating season. The samples are analyzed for Site-specific chlorinated VOCs. Following one round of indoor air sampling, differential pressure across the slab will be used to demonstrate system effectiveness.

Inspection and monitoring also includes measuring VOCs at sub-slab sampling points with a PID, collecting pressure measurements using a manometer, and inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 1 EPMMs during this reporting period is presented in Table 6-2. During this reporting period GEI conducted EPMM inspections at 9 Knowlton Street, 13 Morton Street, 23 Tufts Street, and 27 Tufts Street. GEI has been unable to access 35-37 Knowlton Street, however, according to real estate records the property was sold in May 2023. GEI is attempting to contact the new owner of the property to continue inspections. Additionally, GEI understands that the property at 31-33 Knowlton

Street sold in May 2023; GEI is attempting to contact the new owner of the property to continue inspections. GEI will schedule comprehensive EPMM inspections in the fall of 2023. EPMM Inspection Forms are in Appendix G.

6.3.2 EPEM Shutdown

Based on focused Method 3 risk characterization calculations performed by ARCADIS, which incorporate pre-EPMM indoor air sampling results, several Option 1 EPMMs at the Site may not be required to maintain a condition of NSR. This is a result of the updated MassDEP toxicity characterization for PCE issued in January 2014.

6.3.2.1 AEPMM Closure Testing at 13 Knowlton Street

On November 1, 2016, a shutdown valve was installed on the SSDS riser pipe at 13 Knowlton Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed, for one week, prior to collecting soil vapor and indoor air samples in December 2016, February 2018, March and November 2019, and January 2023.

After the indoor air and soil vapor sampling was completed, the shutdown valve was opened, and the fan was reactivated. Based on the results of the Option 1 EPMM closure sampling, GEI will continue to evaluate the need for an AEPMM to achieve a condition of NSR at 13 Knowlton Street.

6.3.3 AEPMM Closure Testing at 9 Knowlton Street

On May 11, 2022, a shutdown valve was installed on the SSDS riser pipe at 9 Knowlton Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed, for six weeks, prior to collecting soil vapor and indoor air samples in June 2022. The SSDS fan was turned off and the shutdown valve was closed, for one week, prior to collecting additional rounds of soil vapor and indoor air samples in January and March 2023.

After the indoor air and soil vapor sampling was completed, the shutdown valve was opened, and GEI requested that the owner reactivate the fan. Based on the results of the Option 1 EPMM closure sampling, GEI will evaluate the need for an AEPMM to achieve a condition of NSR at 9 Knowlton Street based on a Method 3 Risk Characterization.

6.3.4 Longest Allowable Duration of AEPMM Shutdown

An operating regime for residential AEPMMs was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the systems. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7

and RMR No. 22, the following exposure durations were calculated for Option 1 EPMMs where pre-EPMM indoor air data were available:

- 13 Knowlton Street: 54 years
- 23 Tufts Street: 11 years
- 27 Tufts Street: 25 years
- 31-33 Knowlton Street: 31 years
- 35-37 Knowlton Street: 4 years

Several Option 1 EPMMs were installed based on sub-slab soil vapor results, and pre-EPMM indoor air data are not available (including 13 Morton Street, 18 Morton Street, 95 Franklin Street, 103 Washington Street, and 9 Knowlton Street). However, based on the proximity of the AEPMMs throughout the Site, the shutdown exposure durations calculated for the properties with pre-AEPMM indoor air data are likely representative of the AEPMM properties with no pre-AEPMM indoor air data. Therefore, the longest duration of shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR at these properties is likely between 4 and 54 years.

6.3.5 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through June 15, 2023, the results of post-EPMM installation indoor air sampling and monitoring indicate that each of the Option 1 EPMMs installed or activated at residential and commercial properties has achieved the remedial objectives.

6.3.6 System Maintenance and Modifications

GEI has been evaluating the current telemetry system in consideration of the proposed MCP amendments. The proposed amendments include continual monitoring of system vacuum. Hardware changes at residences will be necessary if and when the amendments go into effect, including replacing the radio node on the exterior of the house and replacing vacuum pressure switches with vacuum pressure transducers in the basement of each residence. These modifications will require GEI to access the interior of residences. GEI will monitor the status of the MCP amendments and will coordinate with property owners.

On November 4, 2021, GEI and Integrasense visited the Site to conduct an inspection of the telemetry system. Integrasense noted that the cellular modem was not communicating, and

the main antenna had vegetative growth obstructing communication. Integrasense removed the cellular modem for off-site repairs and the telemetry system is temporarily shut down. In January 2022, Integrasense replaced the main antenna and cellular modem; however, the main node also required replacement. On March 29, 2022, Integrasense replaced the main radio node at 50 Tufts Street. GEI conducted shutdown tests at 27 Tufts Street and 60 Tufts Street and received notifications via email. GEI also replaced batteries at radio nodes as needed.

6.3.7 Management of Waste Materials

No waste materials associated with Option 1 EPMMs were generated during the reporting period.

6.4 Option 2 and 3 EPMMs

Option 2 and 3 EPMMs consist of passive vapor mitigation and do not require mechanical operation or maintenance. Option 2 or 3 EPMMs have been installed at the following 11 properties:

- 95R Franklin Street (Option 2)
- 12 Morton Street (Option 3)
- 11 Morton Street (Option 2)
- 4 Morton Street (Option 3)
- 10 Morton Street (Option 3)
- 91-93 Franklin Street (Option 3)
- 17 Knowlton Street (Option 3)
- 32 Knowlton Street (Option 3)
- 34 Knowlton Street (Option 3)
- 19-19A Morton Street (Option 3)
- 166-168 Glen Street (Option 3)

In accordance with the MCP (310 CMR 40.1000) prior to the June 20, 2014 MCP amendments, regulatory closure was achieved with a Class A-3 Response Action Outcome Partial (RAO-P) Statement for several properties with an Option 2 or 3 EPMM. The properties that have achieved a Class A-3 RAO-P are presented in Fig. 6-3. In the amended MCP, the term "Response Action Outcome" has been replaced with "Permanent or Temporary Solution." Subsequent regulatory closure for individual properties with Option 2 or 3 EPMMs will be achieved with Partial PSSs with Conditions. The condition associated with the PSSs with Conditions will be maintenance of the passive EPMM in accordance with an AUL.

6.4.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 2 and 3 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected two times per year (including one winter sample) for two consecutive years. In accordance with MassDEP 2016 VI Guidance, GEI modified the post-installation indoor air sampling for newly installed Option 2 and 3 EPMMs to demonstrate effectiveness:

- If groundwater concentrations are less than two times the Method 1 GW-2 standard, and sub-slab soil gas concentrations are less than two times soil gas screening values, and indoor air concentrations are less than two times threshold values (TVs), GEI will perform 2 rounds of indoor air sampling, with one round occurring during the heating season.
- If groundwater concentrations are greater than two times the Method 1 GW-2 standard, and/or sub-slab soil gas concentrations are greater than two times soil gas screening values, and/or indoor air concentrations are greater than two times TVs, GEI will perform quarterly indoor air sampling, with two rounds occurring during the heating season.

Additional indoor air sampling beyond the first year may be performed based on property-specific conditions. Samples will be analyzed for Site-specific chlorinated VOCs. During indoor air sampling, the condition of the EPMM will be inspected and, if needed, repairs or modifications will be scheduled.

Following the completion of post-installation indoor air sampling, annual inspection and monitoring will include inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 2 and 3 EPMMs during this reporting period is presented in Table 6-2. GEI was unable to access: 4 Morton Street, 11 Morton Street, 12 Morton Street, 19-19A Morton, 91-93 Franklin Street, 17 Knowlton Street, and 95R Franklin Street during the reporting period. GEI will continue its attempts to obtain access for EPMM inspections at these properties during the next reporting period. EPMM Inspection Forms are in Appendix G. GEI was made aware of a property sale for 10 Morton Street on February 14, 2023, through contact with the new homeowner. The new homeowner indicated that they had plans to renovate the basement of the home. In order to evaluate the need for the continued presence of the EPMM installed beneath the slab, four soil vapor points were installed and sampled in March and April 2023 as discussed in Section 4.3. Additionally, a RAM Plan was drafted for the homeowner for the purposes of the basement renovation and was submitted on June 21, 2023.

6.4.2 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through June 15, 2023, the results of post-EPMM installation indoor air sampling indicate that the Option 2 or 3 EPMMs currently installed at residential properties have achieved the remedial objectives.

6.4.3 System Maintenance and Modifications

No modifications were made to systems during the reporting period.

6.4.4 Management of Waste Materials

No waste materials associated with Option 2 or 3 EPMMs were generated during the reporting period.

6.5 Activity and Use Limitations

It is anticipated that AULs may be recorded for each property where an EPMM is installed, and the property owner executes the AUL. No AULs were recorded during this reporting period.

6.6 Permanent Solution Statements

GEI evaluates the groundwater chemical testing results collected during MNA activities to update and supplement the plume stability monitoring and natural attenuation evaluation, as presented in the Phase II CSA / Phase III RAP report. An evaluation of the MNA program indicates that the groundwater plumes are stable, overall groundwater concentrations of chlorinated VOCs are not increasing, and natural attenuation processes are occurring at the Site which will likely reduce contaminant concentrations in groundwater over time. Previous investigations have also demonstrated that soil vapor plumes are stable. Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. There are no unpermitted releases of OHM at the Site. Accordingly, all sources of OHM at the Site have been eliminated or controlled to the extent feasible.

The Updated 2015 Method 3 Risk Characterization that ARCADIS prepared was presented in Phase V Status Report No. 8 and RMR No. 23. The Updated 2015 Method 3 Risk Characterization incorporated updated soil, groundwater, and indoor air data sets, and also included updated MassDEP toxicity information, particularly for PCE and TCE. GEI also routinely performs Method 3 risk screening for additional indoor air data collected since 2015. Based on these risk evaluations, a condition of NSR exists for current and future building occupants at each property within the Site. Based on the Updated 2015 Method 3 Risk Characterization, a condition of NSR does not exist for future construction workers performing excavations at the Property or within the MBTA ROW. The inhalation of excavation air pathway associated with the MassDEP change in TCE toxicity is the main driver of potential risks for construction workers in both of these exposure areas. However, these construction worker risks can and should be managed with a Health and Safety Plan (HASP) that is prepared and implemented prior to subsurface work in these exposure areas.

Based on a demonstration of source control at the Site, and a condition of NSR at individual properties, many of the individual properties are eligible for a Partial PSS in accordance with the MCP (310 CMR 40.1000). The filing of a Partial PSS for an individual property documents the achievement of regulatory closure under the MCP for that property. Therefore, the Phase V provisions do not apply to properties for which an RAO-P or Partial PSS has been submitted.

The properties that have achieved a Partial PSS are shown on Fig. 6-3. A summary of the different classes of Partial PSSs to be submitted in the future for properties at the Site, depending on the property-specific conditions and the type of mitigation, if any, are discussed below.

Active operation and maintenance is required for Option 1 EPMMs. Based on the MCP amendments effective June 20, 2014, a PSS with Conditions can be achieved for properties with an Option 1 EPMM. The condition associated with the PSSs with Conditions would be maintenance of the EPMM in accordance with an AUL. No new AULs were recorded during the reporting period.

6.6.1 Permanent Solution without Conditions

GEI will prepare a Partial PSS without Conditions for residences where multiple lines of evidence have demonstrated the absence of a soil vapor migration pathway to indoor air and an EPMM is not required. GEI will also prepare Partial PSSs for residences where a Method 3 Risk Characterization, based on multiple rounds of sampling, indicated that concentrations of chlorinated VOCs in indoor air constitute NSR, and the feasibility evaluation demonstrated that installation of an EPMM was infeasible. In addition, GEI will prepare a Partial PSS without Conditions for the portion of the Site occupied by public rights-of-way. During the reporting period, a Partial PSS without Conditions was submitted

for 90-102 Washington Street. The properties that have achieved a Partial PSS without Conditions are shown in Fig. 6-3.

6.6.2 Permanent Solution with Conditions

GEI will attempt to record an AUL at each property with an Option 1, 2 or 3 EPMM to maintain the integrity of the EPMM. After an AUL is recorded, GEI will prepare a Partial PSS with Conditions for residential properties with Option 1, 2 or Option 3 EPMMs where 2 years of post-installation indoor air samples have demonstrated that the EPMM is effective. Following the post-installation indoor air sampling, GEI will continue annual inspections of Option 1, 2 and 3 EPMMs as provided for in the Phase IV RIP. The properties that have achieved a Partial PSS with Conditions are shown in Fig. 6-3. If a property owner does not execute an AUL, inspections will continue as Phase V activities.

6.7 Future Phase V Activities

6.7.1 EPMM Operation and Monitoring

The results of post-EPMM installation indoor air sampling indicate that the Option 1, 2, and 3 EPMMs installed at the Site have achieved the remedial objectives.

GEI will continue to conduct annual OMM activities for installed EPMMs where sufficient indoor air sampling has been conducted, but not repeat indoor air testing, to confirm it is achieving the remedial design objectives.

GEI has been communicating with property developers for 31 Tufts Street and 121 Washington Street. An EPMM has been installed at 31 Tufts Street and an EPMM is planned to be installed at 121 Washington Street. GEI will plan with the property owners to continue the operation and monitoring program outlined in Section 6.3 and Section 6.4.

6.7.2 EPMM Modifications

As discussed in Section 6.1, the properties at 103 Washington Street and 105 Washington Street are mixed-use redevelopments with commercial space and open-air parking on the first floor and residential units above. The pre-existing buildings at both properties have been demolished and the AEPMM previously at 103 Washington Street has been removed.

As discussed in Section 6.3, remote telemetry has been installed at each Option 1 EPMM except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is infeasible to install telemetry at the property at this time.

6.7.3 EPMM Closure Sampling

As discussed in Section 6.3.2 and 6.3.3, GEI collected indoor air samples from 13 Knowlton Street in February 2018, March 2019, November 2019, and January 2023 and from 9 Knowlton Street in June 2022, January 2023, and March 2023 to demonstrate that the Option 1 EPMM is not required to maintain a condition of NSR.

Based on the results of the Option 1 EPMM closure sampling, GEI will continue to evaluate the need for an AEPMM to achieve a condition of NSR at 9 Knowlton and 13 Knowlton Street.

6.7.4 Installation of New EPMMs

GEI is communicating with property developers at 121 Washington Street concerning potential vapor mitigation controls that may be incorporated into the new proposed buildings at those properties.

6.7.5 AULs and Permanent Solutions

As discussed in Section 6.6., the source of contamination at the Site has been controlled. If post-installation indoor air sampling at a property demonstrates that an EPMM continues to achieve the remedial objectives, then that property is eligible for a Partial PSS with Conditions.

GEI anticipates recording AULs for each property where an EPMM is installed and a Partial PSS with Conditions is to be issued.

Once the AULs are recorded, GEI will prepare a Partial PSS with Conditions for the properties with EPMMs. As discussed in Section 6.6.1, GEI will prepare Partial PSSs for those properties that did not require mitigation.

7. 60 Tufts Street

7.1 Background

60 Tufts Street is a 17-unit condominium building adjacent to the Property. The mitigation system at 60 Tufts Street was designed and constructed as an SSDS. The SSDS includes 12 vertical sub-slab extraction points and 2 horizontal foundation wall extraction points connected to 2 collection headers and a 5-horsepower regenerative blower with pressure gauges, controls, and particulate filter housed in a locked metal enclosure. GEI began operation of the SSDS on April 24, 2009. A discharge pipe extends from the blower through a parking garage deck and discharges above the roofline of the building.

On July 24, 2015, remote telemetry was installed at 60 Tufts Street. The remote telemetry consists of one radio node and one pressure switch connected to the blower to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system will be significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150.

7.2 Remedial Objectives

The objectives of the SSDS at 60 Tufts Street are to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the condominium building.

7.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Operational parameters for the system (e.g., flow rate, vacuum) were historically monitored monthly and indoor air quality in Units 1, 4, and 5 and sub-slab conditions were monitored for 2 years following installation of the EPMM. The Phase IV RIP provided for ongoing annual indoor air sampling. However, post-EPMM indoor air sampling and visual inspections confirmed that the EPMM at 60 Tufts Street has been constructed in accordance

with the Phase IV RIP and has achieved the remedial design objectives. Accordingly, GEI no longer conducts annual indoor air testing, but has continued to monitor operational parameters of the system.

Once remote telemetry was installed on the system on July 24, 2015, GEI began to perform monitoring of system parameters on a quarterly basis in July 2015. Inspection and monitoring at 60 Tufts Street was performed two times from December 2022 to June 2023. On January 19, 2023, GEI replaced the blower filter. On February 16, 2023, the system at 60 Tufts Street shutdown, assumed due to a power failure; GEI restarted the system on February 21, 2023. A summary of monitoring activities conducted during this reporting period is provided in Table 7-1 and the Field Monitoring Forms are provided in Appendix F.

7.4 Performance Efficiency and Effectiveness

As presented in the Phase IV RIP and Phase IV FIR/Phase V ROS reports, the SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air samples were collected in Units 1, 4, and 5, which are the units closest to the ground floor, for 2 years after EPMM installation. The indoor air testing results indicated that a condition of NSR has been achieved for building occupants at 60 Tufts Street and the soil vapor migration pathway to indoor air has been mitigated to the extent feasible.

7.4.1 AEPMM Closure Testing

On March 20, 2018, a shutdown valve was installed on the SSDS riser pipe at 60 Tufts Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed for one week beginning on April 17, 2019, prior to collecting soil vapor and indoor air samples. After the indoor air sampling was completed, the shutdown valve was opened, and the blower was reactivated. The results of the indoor air and soil vapor sampling were presented in Phase V Status Report #16.

7.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the cleanout drains for the sub-surface header pipes, or in the moisture separator installed as part of the blower assembly. If observed, the liquid will be drained and dispensed to the bare ground surface at 60 Tufts Street so that it can infiltrate into the subsurface within the Site boundary.

7.6 System Modifications

No system modifications were made during the monitoring period.

7.7 Future Phase V Activities

The system is achieving the remedial design objectives and OMM activities will continue. To confirm system performance, GEI will continue to monitor operational parameters and sub-slab conditions (e.g., flow rate, vacuum) on a quarterly basis. During monitoring events, GEI will also perform maintenance tasks as needed, which may include documenting that the blower is in operation, draining accumulated water from the moisture separator or collection headers, changing the filter element for the blower, changing the batteries in the auto-dialer, and correcting any issues observed during routine inspection of system components. GEI will implement any modifications to the telemetry system that may be required.

7.7.1 EPMM Closure Sampling

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the EPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing.

In accordance with MassDEP's 2016 VI Guidance, GEI initiated a closure indoor air testing program at 60 Tufts Street during spring 2018, which is:

- Installing a shutdown valve on March 20, 2018 on the ventilation piping of the EPMM;
- Performing indoor air sampling at 60 Tufts Street in July 2018 and April 2019;
- Shutting down the SSDS fan for 7 days prior to indoor air sampling;
- Keeping the shutdown valve closed for 7 days prior to sampling to effectively prevent venting; and
- Following each sampling event, returning the system to normal operating conditions.

Testing was suspended during the COVID-19 pandemic. The unit that GEI had been testing (Unit #4) was sold and GEI has not been able to make contact with the new owner.

7.7.2 Longest Allowable Duration of AEPMM Shutdown

An operating regime for the 60 Tufts Street AEPMM was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 52 years for the 60 Tufts Street property.

7.7.3 Regulatory Closure

As discussed previously in Section 6.6, a Permanent Solution with Conditions can be achieved for properties where an AEPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution Statement with Conditions may be submitted to achieve regulatory closure for 60 Tufts Street if the condominium association for the property executes an AUL. If the last round of shutdown testing demonstrates that an AEPMM no longer is required to maintain a condition of NSR, then a Partial Permanent Solution may be achievable without an AUL.

8. 50 Tufts Street Property

8.1 Background

The remedial system at the Property was originally designed and constructed as an SSDS that includes 22 sub-slab extraction points inside the building, a 15-horsepower regenerative blower with pressure gauges, controls, and particulate filter, and three 2,000-lb activated carbon absorbers operated in series for off-gas treatment. As part of the SSDS installation, the building slab was sealed to minimize vapor transmission through the slab. The cracks and joints in the building slab were filled with flexible sealant and a two-part epoxy coating was applied to the surface of the slab. GEI began operating the SSDS on April 30, 2007.

In July and August 2007, SVE components were added to the system as part of the CRA to address residual VOCs in soil. The SVE system includes seven SVE points installed below the pavement in the north and south parking lots on the Property. The SSDS and the SVE system rely upon shared equipment, including the piping manifold, blower assembly, and off-gas treatment units. GEI began operating the SVE system on August 22, 2007.

In April 2015, a wireless telemetry hub was installed at the Property. The telemetry hub receives telemetry notification from the other AEPMMs at the Site. A radio node was also installed and connected to monitor the 50 Tufts Street system.

8.2 Remedial Objectives

The design objectives of the combined SSDS/SVE system were to:

- Eliminate or mitigate, to the extent feasible, the soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for a commercial full-time worker.
- Reduce the mass of contaminants in the vadose zone.
- Control the potential migration of soil vapor from the Property to the 60 Tufts Street property.

8.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP. Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in July 2015. Operational parameters for the system (e.g., flow rate, vacuum, off-gas treatment

efficiency) were monitored seven times from December 2022 to June 2023. GEI also measures the vapor pressure of sub-slab extraction points and monitoring points periodically. GEI uses these sub-slab pressure measurements to confirm system effectiveness. The pipe and hose connections on the pressure side of the blower are examined during monitoring visits for potential leaks. Leaks, if encountered, are corrected immediately. Carbon change-outs are scheduled based on carbon tank monitoring data to maximize VOC adsorption while maintaining compliance with regulatory requirements regarding discharge of VOCs to the atmosphere. Procedures to address potential spills of spent activated carbon during carbon change-outs have been developed and are presented in the system OMM Plan provided in the Phase IV RIP.

GEI performs monitoring for off-gas treatment efficiency monthly. Based on that monitoring, the system off-gas for the combined SSDS/SVE system was within permissible limits during the reporting period. A summary of monitoring activities during this reporting period is provided in Table 8-1, and Field Monitoring Forms are provided in Appendix F.

8.4 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. In conjunction with the physical sealing of the slab, this indicates the soil vapor migration pathway to indoor air is being mitigated by the system. Based on indoor air testing results collected since the combined system has been in operation, and the Method 3 risk characterizations prepared for the Site, a condition of NSR for full-time commercial workers has been achieved for the building at the Property.

The SVE system monitoring data show that vacuum influence from the SVE points in the south parking lot extends approximately 30 feet south of the building and from the SVE points in the north parking lot extends onto 60 Tufts Street.

Three influent and two effluent samples from the carbon treatment system were collected in May 2007, June 2007, and March 2008. The results of this sampling were compared with PID field measurements to estimate the total mass of VOCs removed from soil vapor between April 2007 and May 2014. However, GEI collected more recent influent and effluent samples in February 2014. The results of the February 2014 influent and effluent sampling are a better indicator of current system conditions and were used to estimate the total mass of VOCs removed from soil vapor based on PID field measurements beginning in June 2014. Monitoring data from both the SSDS and SVE components through June 15, 2023 show that approximately 9,380 lbs (approximately 696 gallons) of VOCs have been removed from the vadose zone at the Property (Fig. 8-1).

8.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the moisture separator installed as part of the blower assembly. If observed, the liquid is drained from the moisture separator and dispensed to the bare ground surface at the Property so that it can infiltrate into the subsurface within the Site boundary.

Based on the previous quantities of spent carbon generated by the system, a 2021 Hazardous Waste Report was submitted to MassDEP on February 16, 2022, identifying the Property as a Large Quantity Generator (LQG) facility. GEI will submit the next biennial Hazardous Waste Report in early 2024.

No remediation waste was generated during this reporting period. On May 11, 2023, GEI collected a sample of the spent carbon from Tank B of the off-gas system to facilitate acceptance at the proposed disposal facility during the next round of granular activate carbon (GAC) change. The sample was sent to ESS Laboratories of Cranston, Rhode Island for analysis of Toxic Characteristic Leaching Procedure (TCLP) VOCs, TCLP Semi-Volatile Organic Compounds SVOCs, total VOCs, and total SVOCs. The laboratory data is in Appendix D. The GAC change is scheduled for July 2023.

8.6 System Modifications

No system modifications were made during this reporting period.

8.7 Future Phase V Activities

The system is achieving the remedial design objectives. Phase V ROS OMM activities will continue in accordance with the requirements and schedule set forth in the Phase IV RIP.

8.7.1 Longest Duration of AEPMM Shutdown

An operating regime for the 50 Tufts Street AEPMMs was included in the Phase IV FIR/ Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system. Indoor air sampling performed at 50 Tufts Street by GeoInsight in September 2006 identified PCE concentrations ranging from 550 to 800 micrograms per cubic meter (µg/m3), and TCE concentrations ranging from 16 to 150 µg/m3. In accordance with the MassDEP Fact Sheet "TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure," dated March 27, 2014, the pre-EPMM concentrations in the building would pose an IH even over a short time period, such as a matter of days. However, GEI performed indoor air sampling during an unscheduled SSDS/SVE system shutdown in March 2015. The March 2015 indoor air concentrations did not pose an IH, and TCE was not detected during the March 2015 indoor air sampling. Based on system monitoring logs, the system was likely down for

slightly less than 1 month during the March 2015 shut down. This information indicates that an IH would not be present during a minor shut down of the 50 Tufts Street system. Because the building is currently occupied, sampling cannot be conducted after the system has been shut down for a full 60 days or longer, so the maximum duration for a system shutdown that might pose an IH is not known now.

GEI will continue to operate the AEPMM at 50 Tufts Street.

9. Monitored Natural Attenuation

9.1 MNA Program Objectives

MNA is part of the remedial strategy to reach a Permanent Solution for the Site. GEI has implemented an MNA program to confirm on-going natural attenuation is occurring at the Site. The MNA program is described in the MNA OMM Plan presented in the Phase IV RIP. The primary elements of the MNA program include:

- Plume Stability Monitoring: A groundwater sampling plan to monitor overburden and bedrock groundwater plume concentrations through time to confirm that the groundwater plumes are stable, and that overall groundwater concentrations of chlorinated VOCs are not increasing.
- Natural Attenuation Evaluation: An evaluation of overburden and bedrock groundwater plume concentrations through time for indications of the presence and rate of natural attenuation processes.

9.2 MNA Activities

GEI conducted the following MNA activities during the reporting period:

- Groundwater Level Measurements: GEI measured groundwater levels at monitoring wells shown in Table 9-1.
- Groundwater Sampling: GEI collected groundwater samples from 18 monitoring wells in April and May 2023 and submitted them for chemical testing for VOCs by EPA Method 8260B. The sampling locations are shown in Fig. 4-1, the chemical testing results are shown in Table 4-2, and the laboratory data reports are in Appendix D.

GEI evaluated the groundwater chemical testing results collected during MNA activities to update and supplement the plume stability monitoring and natural attenuation evaluation, as presented in the Phase II CSA / Phase III RAP report. During this reporting period, semi-annual groundwater sampling was conducted by GEI at 18 monitoring wells shown in Fig. 4-1.

Based on an analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the PCE, TCE, and TCA groundwater plumes continue to be stable.

GEI has been monitoring concentration fluctuations in groundwater PCE concentrations in monitoring wells MW122 and MW112A, and TCE concentrations in monitoring wells MW118D and MW121D. The concentrations increased slightly in MW121D, decreased in MW112A and MW118D. Concentrations of PCE and TCE demonstrate an increasing trend in MW122. These results are generally within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. There has been an increase in PCE and TCE concentrations in overburden monitoring well MW122 (1,700 µg/L and 170 µg/L, respectively in April 2023) particularly over the past five years. However, downgradient overburden monitoring wells MW118S and MW121S remain non-detect for PCE and TCE, suggesting that the plume remains stable despite increased concentrations at MW122. GEI will investigate potential utilities in Franklin Street that may be contributing to a preferential pathway for contaminant migration. MW122 is adjacent to 97 Franklin Street. While historic soil vapor and indoor air monitoring at the property did not warrant the installation of an EPMM, GEI has contacted the homeowner at 97 Franklin Street via certified letter for access to the property to return and conduct soil vapor and indoor air monitoring at the residence. GEI will perform additional groundwater sampling of these monitoring wells in fall 2023.

10. Remedial Monitoring Report No. 39

Remedial Monitoring Report No. 39, documenting OMM activities for active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

11. References

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GEI (2007). Monthly Remedial Monitoring Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

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GEI (2007). Monthly Remedial Monitoring Report No. 6B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

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GEI (2008). IRA Status Report No. 5 and Remedial Monitoring Report (RMR) No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 12, 2008.

GEI (2008). Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated July 14, 2008.

GEI (2008). IRA Status Report No. 6 and Remedial Monitoring Report (RMR) No. 9, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 10, 2008.

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GEI (2013). Phase V Status Report No. 3 and Remedial Monitoring Report No. 18, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2013.

GEI (2013). Phase V Status Report No. 4 and Remedial Monitoring Report No. 19, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2013.

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GEI (2017). Phase V Status Report No. 12 and Remedial Monitoring Report No. 27, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2017.

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GEI (2018). Phase V Status Report No. 14 and Remedial Monitoring Report No. 29, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2018.

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TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated April 8, 2021.

TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated April 26, 2021.

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Tables

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
5/23/2006	SH-MW1, SH-MW2, SH-MW3, GEO-1, GEO-2, MW-1, MW-	NA
5/24/2006	GEO-3, GEO-4, GEO-5, GEO-6, MW101, MW102	Field Duplicate of GEO-3
5/25/2006	SH-4	NA
Groundwater Sampling		
8/7/2006	MW103	NA
Quarterly Groundwater Sampling		
10/4/2006	SH-MW1, SH-MW2, SH-MW3, GEO-3 GEO-4, GEO-5 and	Field Duplicate MW900 (GEO-3)
10/5/2006	GEO-1, GEO-2, MW101, MW102, MW103, MW104 and	NA
Quarterly Groundwater Sampling		
1/16/2007	SH-MW1, SH-MW2, GEO-3, GEO-4, GEO-5, GEO-6,	Field Duplicate MW900 (GEO-6)
1/17/2007	SH-MW3, MW-1, MW-3, GEO-1 and GEO-2	Field Duplicate MW800 (GEO-1)
1/18/2007	MW103, MW106, MW107, MW108, MW109, MW110 and	NA
Groundwater Sampling		
2/20/2007	MW113 and MW114	NA
3/23/2007	MW112A, MW115R AND MW116	NA
Quarterly Groundwater Sampling		
4/12/07	SHMW1, SHMW3, GEO1, GEO2 and MW113	NA
4/13/07	GEO3, MW101, MW102, MW103, MW104, MW106,	Field Duplicate MW900 (MW101)
4/16/07	SHMW2, GEO4, GEO5, GEO6, MW105, MW108, MW109,	Field Duplicate MW901 (GEO6)
5/23/07	MWCS1	NA
Quarterly Groundwater Sampling		
7/18/2007	MW102, MW107, MW108, MW11, MW112A, MW113, MW114, MW115R, M2116 and MW117S	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
7/19/2007	SHMW2, MW104, MW105, MW106, MW117T, MW117D,	NA
7/20/2007	MW118S, MW118T and MW118D	NA
Groundwater Sampling		
8/22/07	MW119S, MW119T, MW120S and MW120D	NA
8/30/07	MW118S, MW118T and MW118D	NA
Quarterly Groundwater Sampling		
10/10/2007	MW102, MW105, MW106, MW107, MW108, MW111, MW112A, MW113, MW114, MW115	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113)
10/11/2007	MW117T, MW117D, MW118S, MW118T, MW118D	NA
10/12/2007	MW116, MW119S, MW119T, MW120S, MW120D,	Field Duplicate MW901 (MW116)
10/15/2007	MW104, MW117S	NA
10/22/2007	MW121S, MW121D	NA

General Notes:
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2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, April 2022, and April and May 2023 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
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Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/9/2008	MW105, MW115	NA
1/10/2008	MW102, MW106, MW107, MW108, MW111, MW112A	Sample from MW102 was used for MS/MSD
1/11/2008	MW104, MW113, MW114, MW116, MW117S, MW118S, MW201, MW202	Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
1/15/2008	MW117T, MW117D, MW118T, MW119S, MW120S,	NA
1/16/2008	MW118D, MW119T	NA
1/17/2008	MW120D	NA
Groundwater Sampling		
1/30/2008	MW122	NA
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D,	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D,	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)

General Notes:
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2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, April 2022, and April and May 2023 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/12/2009	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
1/13/2009	GEO-1, GEO-2, MW117S, MW117T, MW117D, MW119S,	NA
1/14/2009	MW104, MW-3, MW116, MW118S, MW118T, MW118D	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
4/13/2009	GEO-1, GEO-2, MW105, MW112A, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
4/14/2009	MW-3, MW104, MW117S, MW117T, MW117D, MW118T,	NA
4/15/2009	MW102, MW116, MW118S	NA
Quarterly Groundwater Sampling		
7/14/2009	MW105, MW112A, MW116, MW118T, MW121S, MW121D, MW202	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
7/15/2009	GEO-1, GEO-2, MW-3, MW104,MW117S, MW117T, MS117D, MW118S, MW118D, MW119S, MW119T,	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
10/14/2009	GEO-1, GEO-2, MW104, MW105, MW112A, MW116, MW117S, MW117D, MW118S, MW118D, MW121S,	Field duplicate MW112A (MW900) Field duplicate MW118D (MW901)
10/15/2009	MW119T, MW119S, MW120S, MW120D, MW118T	Sample from MW104 was used for MS/MSD
10/16/2009	MW117T, MW3	
Annual Groundwater Sampling		
4/12/2010	MW104, MW105, MW112A, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202	Field duplicate MW112A (MW900) Sample from MW104 was used for MS/MSD
4/13/2010	GEO-1, GEO-2, SH-MW3, MW116, MW117S, MW117T, MW117D, MW119S, MW119T, MW120S, MW120D	Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling		
10/27/2010	MW112A, MW122	NA
Annual Groundwater Sampling		
4/20/2011	MW105, MW112A, MW117D, MW118S, MW118T,	Field duplicate MW112A (MW900)
4/21/2011	GEO-2, SH-MW3, MW104, MW116, MW117S, MW117T	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD
4/22/2011	GEO-1, MW119S, MW119D, MW120S, MW120D, MW202	
Semi-Annual Groundwater Sampling		
11/16/2011	MW112A, MW122	NA
Annual Groundwater Sampling		
4/16/2012	SH-MW-3, MW112A, MW117S, MW117T, MW117D, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S. MW121D	Field duplicate MW112A (MW900)
4/17/2012	GEO-1, MW104, MW105, MW116, MW118T, MW122, MW202	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD

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4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, April 2022, and April and May 2023 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
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Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/12/2012	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/23/2013	SH-MW-3, MW105, MW117T, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, MW202	NA
4/24/2013	GEO-1, MW104, MW112A, MW116, MW117S, MW117D, MW118S, MW118T, MW118D	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901)
5/1/2013	GEO-2	Sample from MW104 was used for MS/MSD
Semi-Annual Groundwater Sampling		
11/18/2013	MW112A, MW118D, MW121D, MW122	NA
Kleinfelder Groundwater Sampling		
2/6/2014	KE-114-140206, KE-115-140206, KE-116-140206, KE-117-140206, MW-SR-140206, WashSW-140206	Sample from WashSW-140206 was a grab sample from the base of an open excavation.
4/8/2014	KE-202D, KE-202S	NA
4/9/2014	KE-117	NA
4/14/2014	KE-204, KE-206, KE-208	NA
4/15/2014	KE-205, KE-207, KE-209, KE-210	NA
Annual Groundwater Sampling		
4/30/2014	MW104, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD
5/1/2014	MW117S, MW117T, MW117D, MW118S, MW118D, MW118T, MW119S, MW119T, MW120S, MW120D, MW116	Field duplicate MW116 (MW900)
6/11/2014	MW112A	NA
Semi-Annual Groundwater Sampling		
11/18/2014	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/2/2015	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118D, MW119S, MW119T, MW121S, MW121D. MW122. SH-MW-3. GEO-1. GEO-2	Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW901)
4/3/2015	MW118T, MW120S, MW120D	
4/17/2015	MW112A	Field duplicate MW112A (MW900)
Semi-Annual Groundwater Sampling		
11/19/2015	MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/28/2016	MW1112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, GEO-1	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/29/2016	MW104, MW116, MW202, GEO-2	Sample from MW104 was used for MS/MSD

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3. MS/MSD = matrix spike/matrix spike duplicate.
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5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, April 2022, and April and May 2023 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/21/2016	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/17/2017	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202, GEO-1	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901)
4/18/2017	MW112A, MW119S, MW119T, MW120S, MW120D, GEO-2	Sample from MW104 was used for MS/MSD
4/28/2017	SH-MW-2, MW104	
Semi-Annual Groundwater Sampling		
11/8/2017	MW118D, MW121D, MW122	
11/10/2017	MW112A	NA
Annual Groundwater Sampling		
4/3/2018	MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/4/2018	GEO-1, GEO-2, MW104, MW112A, MW116, MW120S, MW120D, MW202, SH-MW-2	Sample from MW104 was used for MS/MSD
Semi-Annual Groundwater Sampling		
11/15/2018	MW 112A MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/15/2019	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/16/2019	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, SHMW2, GEO-1, GEO-2	Sample from SHMW2 was used for MS/MSD
Semi-Annual Groundwater Sampling		
11/23/2019	MW 112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/16/2020	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/17/2020	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, GEO-1, GEO-2	Sample from MW202 was used for MS/MSD
Semi-Annual Groundwater Sampling		NA
11/18/2020	MW 112A, MW118D, MW121D, MW122	
Annual Groundwater Sampling		
4/13/2021	MW112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/14/2021	MW116, MW119S, MW119T, MW120S, MW120D, MW202, GEO-1, GEO-2	Sample from GEO-1 was used for MS/MSD
Semi-Annual Groundwater Sampling		NA
11/30/2021	MW 112A, MW118D, MW121D, MW122	
Annual Groundwater Sampling		
4/12/2022	MW118S, MW118T, MW118D, MW117T, MW117S, MW117D	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/13/2022	MW120S, MW120D, MW119S, MW119T, MW121S, MW121D, GEO-1, MW122, MW202, MW116	Sample from GEO-1 was used for MS/MSD
4/14/2022	GEO-2 and MW112A	
Semi-Annual Groundwater Sampling		NA
11/29/2022	MW 112A, MW118D, MW121D, MW122	
Annual Groundwater Sampling		
4/17/2023	MW118S, MW118T, MW118D, MW117T, MW117S, MW117D, MW122, MW119S, MW119T	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/18/2023	MW120S, MW120D, MW121S, MW121D GEO-1, GEO-2, MW202, MW116	Sample from GEO-1 was used for MS/MSD
5/11/2023	MW112A	

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4. VOC = volatile organic compound.
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Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
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			GEO-1																										GEO-2								
Sample Location:																																					
Sample Name:			GEO-1	GEO-1	GEO-1	GEO-1	MW800 (FD)	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			8/16/04	5/23/06	10/5/06	1/17/07	1/17/07	4/12/07	4/15/08	7/15/08	10/21/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/22/11	4/17/12	4/24/13	4/30/14	4/2/15	4/28/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23	8/16/04	5/23/06	10/5/06	1/17/07	4/12/07	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09
Collected By:			GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 400	< 5.0	< 5.0	< 5.0	< 5.0	9.7	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<50	<10	<10	<10	<5.0	<5.0	<5.0	487	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Benzene			< 20	< 0.50	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	< 5.0	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<50	<10	<10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	< 25	< 5.0	< 5.0	4.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 20	3.6	1.4	2.3	2.3	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 20	0.76 J	0.86 J	0.76 J	0.84 J	0.77 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 20	< 1.0	< 1.0	0.60 J	0.61 J	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	0.62 J	< 1.0	0.60 J		
Chloromethane			< 40	< 2.0	3.7	< 2.0	1.8 J	6.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 20	4.3	2.9	5.4	5.6	10.6	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	2.2	2.0	< 5.0	2.5	1.1	< 1.0	< 1.0	0.29 J	< 1.0
1,2-Dichloroethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	13.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			39.8	989	1330 E	247	241	8980	3.0	26.2	1.4	1.3	1.7	< 1.0	2.0	< 1.0	7.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	23.2	14.2	26.3	25.2	11.5	13.4	8.4	7.0	17.0	6.5
cis-1,2-Dichloroethylene			< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	1.6	9.0	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0
trans-1,2-Dichloroethylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	367	< 25	< 50	< 25 K-	< 25	< 100	<630	<130	<130	<500	<250	<250	<250	NT	< 25	< 25 R	< 130	< 25	< 25	< 25	< 25 J+	< 25	< 25
Ethylbenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 20	64.2	5.3 J+	2.5	2.7	6.9 J+	7.9	< 1.0	< 1.0	0.26 J	1.1	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	37.6	79.9	12.8 J+	9.8	16.5	< 1.0	5.9	0.45 J	< 1.0	0.29 J
Methylene chloride			< 200	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<4.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	8.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 20	5.7	3.0 J	5.7	5.8	15.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			1880	18600	19500	17300	18000	48500	135	268	115	76.1	64.3	71.5	698	79.2	2580	171	85.1	252	162	134	1340	70.9	32.9	240	48	25	23	285	131	693	1420	120	115	140	110	263 G	202
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<50	<10	<10	<4.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 20	1.2	0.72 J	1.1	0.99 J	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1720	19100	9620 J+	13300	14200	42500 J+	29.5	217	8.5	9.2	10.0	5.9	16.6 J+	7.0	12.2	3.7	2.1	2.3	3.0	1.3	9.1	<1.0	<1.0	5.8	<1.0	<1.0	<1.0	490	125	376	867	147 J+	70.5	25.5	22.5	110	29.7
1,1,2-Trichloroethane			< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			898	10000	5530	9090	9660	30600	18.9	70.6	11.0	8.9	8.0	10.1	31.2	8.2	35.6	6.5	4.8	5.9	7.1	5.4	2.2 J	3.60	1.90	3.0	1.7	2.00	2.1	60	27.3	170	602	36.0	22.8	20.9	19.7	99.7	31.7
Vinyl chloride			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	<2.0	< 10	< 1.0	< 1.0	11.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	ND	< 1.0	< 1.0	14.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT
Arsenic																																< 10							
Iron																																< 100							
Manganese																																NT							
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																							
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT
Methane	8015	µg/l																														< 10							
Ethane	8015	µg/l																														< 10							
Ethylene	8015	µg/l																														< 10							
Alkalinity	E310.1	µg/l																														104000							
Chloride	E325.3	µg/l																														1310000							
Chlorine, Total Residual	E330.4	µg/l																														NT							
Iron, Ferrous	3500FE B	µg/l																														NT							
Nitrate & Nitrite as N	E353.2	µg/l																														7000							
Nitrogen, Nitrate	E353.2	µg/l																														7000							
Nitrogen, Nitrite	E354.1	µg/l																														< 10							
Sodium	6010C	µg/l																														NT							
Sulfate	E375.4	µg/l																														88000							
Sulfide	E376.1	µg/l																														< 2000							
Surfactants	E425.1	µg/l																														< 100							
Total Organic Carbon	E415.1	µg/l																														< 1000							

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. '< ' = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-2																				GEO-3							GEO-4					
Sample Name:			GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	MW901 (FD)	GEO-2	GEO-2	MW901 (FD)	GEO-2	MW901 (FD)	GEO-2	MW901 (FD)	GEO-2	MW901	GEO-2	MW901	GEO-2	MW901	GEO-3	GEO-3	MW900 (FD)	GEO-3	MW900 (FD)	GEO-3	GEO3	GEO-4	GEO-4	GEO-4	GEO-4	GEO-4	GEO4
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			10/14/09	4/13/10	4/21/11	5/1/13	4/30/14	4/2/15	4/29/16	4/29/16	4/18/17	4/4/18	4/4/2018	4/16/2019	4/16/2019	4/17/2020	4/17/2020	4/14/2021	4/14/2021	4/14/2022	4/14/2022	4/18/2023	4/18/2023	8/16/04	5/24/06	5/24/06	10/4/06	10/4/06	1/16/07	4/13/07	8/16/04	5/24/06	10/4/06	1/16/07	4/16/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																		
Volatile Organic Compounds (VOCs)																																				
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 5.0	< 5.0	< 100	< 50	
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 100	< 0.50	< 0.50	< 10	< 5.0	
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 50	
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	
Chloroform			0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.56 J	0.76 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	2.5	< 20	< 10	
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	11.6	11.6	2.6	< 1.0	< 100	2.7	7.1	< 20	< 10	
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
1,1-Dichloroethylene			10.8	13.8	3.7	7.8	3.8	3.1	4.3	4.9	1.5	1.1	1.1	<1.0	<1.0	2.3	2.6	1.7	1.8	2.6	2.3	3.3	2.7	108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 100	6.1	17.8	< 20	< 10	
cis-1,2-Dichloroethylene			< 1.0	3.1	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	2.8	2.6	1.2	< 1.0	< 100	6.3	16.7	< 20	5.5 J	
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 2.0	< 2.0	< 40	< 20	
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25 K-	< 25	< 25	< 25	<130	<130	<130	<130	<130	<250	<250	<250	<250	<250	<250	<250	<250	NT	< 25	< 25	< 25 R	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 5.0	< 250	
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	
Methyl tert-butyl ether			0.56 J	< 1.0	< 1.0	4.5	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 1.0	< 1.0	1.2 J+	1.1 J+	< 1.0	< 1.0	< 100	< 1.0	1.5 J+	< 20	< 10	
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 5.0	< 2.0	< 5.0	< 2.0	< 1000	< 2.0	< 2.0	< 40	< 20	
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 40	< 20	
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	0.84 J	< 100	< 50	
Tetrachloroethylene (PCE)			167	480	66.4	140	119	76.3	147	145	50.7	48.5	45.4	26.3	25.6	120	130	86	86	96	84	120	120	4020	162	157	2720	2340	529	93.2	12900	6690	24100	16700	8240	
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	<10	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 200	< 100	
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.8	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
1,1,1-Trichloroethane (TCA)			37.5 J+	61.9	4.3	16.0	15.5	11.4	18.4	20.4	5.2	3.7	3.6	1.1	1.1	9.2	9.5	11	11	17	16	19	16	204	4.0	4.4	78.2 J+	77.2 J+	16.2	< 1.0	1170	113	321 J+	113	70.9	
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
Trichloroethylene (TCE)			33.4	103	14.7	14.3	12.2	9.9	12.7	12.8	7.1	6.1	6.0	4.4	4.2	6.1	6.4	3.8	3.8	4.2	4.0	7.8	6.8	507	14.4	14.1	209	207	70.2	10.0	720	86.8	235	129	74.8	
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 1.0	< 1.0	< 20	< 10	
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	< 1.0	< 1.0	< 20	< 10	
Metals (Total)	6010B	µg/l	NT							NT			NT		NT		NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Arsenic				NT	NT	NT	NT	NT	NT		NT	NT		NT		NT		NT		NT		NT														
Iron				< 100 J+	< 100	< 100	NT	NT	NT		NT	NT		NT		NT		NT		NT		NT														
Manganese				< 15	< 15	< 15	< 15	< 15	< 15		<15	<15		<15		<10		<10		<10		<10														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																				
Others			NT							NT			NT		NT		NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l		1.58	< 0.30	< 0.30	< 10	< 10	< 10		<10	<0.11		0.14		<1.0		<2.00		<2.00		<2.00														
Ethane	8015	µg/l		< 0.10	< 0.10	< 0.10	< 10	< 10	< 10		<10	<0.23		<0.23		<0.5		<0.500		<0.500		<0.500														
Ethylene	8015	µg/l		< 0.10	< 0.10	< 0.10	< 10	< 10	< 10		<10	<0.31		<0.31		<0.5		<0.500		<0.500		<0.500														
Alkalinity	E310.1	µg/l		44100	50400	64600	69000	48400	50300		34000	32800		221000		28500		28,300		43,400		27,000														
Chloride	E325.3	µg/l		165000	53700	252000	175000	220000	290000		287000	254000		198000		420000		270,000		38,000		270,000														
Chlorine, Total Residual	E330.4	µg/l		< 50 A	< 50	< 50	< 50 A	< 50 A				1130		<100		<20		<20		<20		<20														
Iron, Ferrous	3500FE B	µg/l		NT	NT	NT	< 100	< 100	< 100		<100	<200		<200		<500		<500		<500		<500														
Nitrate & Nitrite as N	E353.2	µg/l		6700	4400	3300	1700	1600	1500		1700	2300		1700		630		1,400		770		3,000														
Nitrogen, Nitrate	E353.2	µg/l		6700	4400	3300	1700	1600	1500		1700	2300		1700		629		1,320		755		3,050														
Nitrogen, Nitrite	E354.1	µg/l		< 10	< 10	< 10	< 10	< 10	< 10		<10	<10		<10		<300		<300		564		<300														
Sodium	6010C	µg/l		NT	NT	NT	NT	NT	NT		NT	NT		NT		NT		NT		NT		NT														
Sulfate	E375.4	µg/l		117000	105000	67800	38900	27500	30900		21600	19000		15900		<10000		<10,000		<10,000		12000														
Sulfide	E376.1	µg/l		< 2000	< 2000	< 2000	< 2000	< 2000				<2000		<2000		<100		<100		<100		<100														
Surfactants	E425.1	µg/l		< 100	< 100	< 100	< 100	< 100	< 100		<100	<100		<100		<50		<50		<50		<50														
Total Organic Carbon	E415.1	µg/l		2400	4600	1700	1000	<5000	< 1000		<1000	1000		<1000		<500		<500		570		<500														

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-5					GEO-6							MW-1					MW101					MW102							MW103					
Sample Name:			GEO-5	GEO-5	GEO-5	GEO-5	GEO5	GEO-6	GEO-6	GEO-6	GEO-6	MW900 (FD	GEO6	MW901 (FD)	MW-1	MW-1	MW-1	MW-1	MW1	MW-101	MW101	MW101	MW101	MW900	MW-102	MW102	MW102	MW102	MW102	MW102	MW102	MW102	MW-103	MW103	MW103	MW103	MW103	MW103
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4/16/07	5 to 20	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16
Sample Date:			8/16/04	5/24/06	10/4/06	1/16/07	4/16/07	8/16/04	5/24/06	10/4/06	1/16/07	1/16/07	4/16/07	4/16/07	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	5/24/06	10/5/06	1/17/07	4/13/07	4/13/07	5/24/06	10/5/06	1/16/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	5/24/06	8/7/06	10/5/06	1/16/07	1/18/07	4/13/07
Collected By:			GeoInsight	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 2000	< 5.0	< 5.0	< 250	< 5.0	< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 40000	40.0	36.1	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Benzene			< 100	< 0.50	< 0.50	< 25	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 5.00	< 2000	2.0	< 0.50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5
Bromodichloromethane			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
2-Butanone (MEK)			< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 4000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	0.81 J	< 5.0	< 10	< 5.0	< 5.000	< 10000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Carbon tetrachloride			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	19.0	22.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Chlorobenzene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	1.1	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Chloroethane			< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 10000	< 4000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
Chloroform			< 100	< 1.0	0.62 J	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	3.7	1.6	< 500	1.8	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.65 J	0.62 J	< 5.0
Chloromethane			< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 25000	< 4000	< 2.0	14.6	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
1,4-Dichlorobenzene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 25000	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,1-Dichloroethane			< 100	3.0	9.7	< 50	< 1.0	< 10	2.0	4.4	1.7	1.6	0.92 J	1.1	< 7500	< 2000	59.8	59.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	0.88 J	< 1.0	< 1.0	0.42 J	2.1	4.1	0.51 J	27.2	3.7	13.0	11.5	10.1	7.9
1,2-Dichloroethane			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	4.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	3.9 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,1-Dichloroethylene			< 100	8.9	32.7	< 50	< 1.0	< 10	4.6	11.0	4.4	3.2	2.8	3.8	< 5.00	< 2000	11500	1260	2290	8.7	21.1	14.1	< 1.0	4.6 G	6.3	50.2	30	< 1.0	23.6	39.7	51.8	22.2 C+	13.4	2.0	6.5	4.3	4.3	8.0
cis-1,2-Dichloroethylene			< 100	12.5	35.2	< 50	< 1.0	14.8	9.1	15.4	7.7	6.9	5.3	6.3	< 5.00	< 2000	24.3	7.7	< 500	< 1.0	< 1.0	1.3	< 1.0	2.1 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	3.0	2.5	< 1.0	< 1.0	< 5.0
trans-1,2-Dichloroethylene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,2-Dichloropropane			< 100	< 2.0	< 2.0	< 100	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 18000	< 2000	4.5	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
1,4-Dioxane			NT	< 25	< 25 R	< 1300	< 25	NT	< 25	< 25 R	< 25	< 25	< 5.0	< 25	NT	NT	< 25 R	< 25	< 13000	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25 R	< 25	< 25	NT	< 50	< 25	< 25	< 25	< 25 R	< 25	< 25	< 25	< 130
Ethylbenzene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	2.8	4.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
2-Hexanone			< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 20000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
4-Isopropyltoluene			< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.00	< 2000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Methyl tert-butyl ether			< 100	1.3	3.3 J+	< 50	< 1.0	< 10	1.3	1.9 J+	1.2	1.2	0.80 J	0.81 J	< 10000	< 2000	< 1.0 J+	< 1.0	< 500	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	4.5 J+	2.7	< 1.0	NT	17.3	24.2	1.7 C+	< 1.0	< 1.0	0.65 J J+	< 1.0	< 1.0	< 5.0
Methylene chloride			< 1000	< 2.0	< 2.0	< 100	< 2.0	< 100	< 2.0	< 2.0	< 2.0	1.3 J	2.5 J	< 2.0	< 5.000	< 20000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	4.3	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
Naphthalene			< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 2000	< 5.0	2.4 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 100	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	NT	NT	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
1,1,1,2-Tetrachloroethane			< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.00	< 2000	38.1	22.8	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			14400	2440	12900	254 F+	17.9	782	675	1980	632	594 F+	618	497	52000	24200	34400	74900	49600	163	171	192	94.0	90.7	200	898	692	20.3	524	685	606	438 C+	2600	592	1510	1200 F+	1250 F-	1510
Tetrahydrofuran			NT	< 10	< 10	< 500	< 10	NT	< 10	< 10	< 10	< 10	< 20	< 10	NT	NT	< 10	< 10	< 5000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50
Toluene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	19.6	15.3	< 500	< 1.0	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,1,1-Trichloroethane (TCA)			646	246	652	< 50	< 1.0	27.8	42.5	77.2 J+	33.7	25.3	21.2	26.8	290000	112000	255000	135000	151000	110	146	131	50.5 J+	43.0 J+	< 1.0	65.7 J+	32.6	< 1.0	26.3	69.8	121	21.9 C+	34.0	4.4	14.4 J+	17.6	21.0	< 5.0
1,1,2-Trichloroethane			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	85.8	16.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Trichloroethylene (TCE)			404	146	446	< 50	< 1.0	122	78.8	131	75.3	56.5	55.5	70.5	220000	128000	175000	120000	103000	50.5	30.2	38.4	47.2	45.7	15.6	89.1	57.0	2.0	46.1	61.0	65.3	35.6 C+	109	24.0	60.4	37.0	38.0	58.7
Vinyl chloride			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 10000	< 2000	< 1.0	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
m,p-Xylene			< 200	< 1.0	< 1.0	< 50	< 1.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 4000	4.8	5.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
o-Xylene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	9.2	13.8	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Total Xylene			ND	< 1.0	< 1.0	< 50	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	ND	ND	14.0	19.7	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT			NT
Arsenic											< 10	< 10																								< 10		
Iron											< 100	< 100																								< 100		
Manganese											NT	NT																								NT		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT			NT
Methane	8015	µg/l									< 10	< 10																								< 10		
Ethane	8015	µg/l									< 10	< 10																								< 10		
Ethylene	8015	µg/l									< 10	< 10																								< 10		
Alkalinity	E310.1	µg/l									134000	133000																								53500		
Chloride	E325.3	µg/l									825000	825000																								675000		
Chlorine, Total Residual	E330.4	µg/l									NT	NT																								NT		
Iron, Ferrous	3500FE B	µg/l									NT	NT																								NT		
Nitrate & Nitrite as N	E353.2	µg/l									3500	3500																								8900		
Nitrogen, Nitrate	E353.2	µg/l									3500	3500																								8900		
Nitrogen, Nitrite	E354.1	µg/l									< 10	< 10																								16		
Sodium	6010C	µg/l									NT	NT																								NT		
Sulfate	E375.4	µg/l									45800	45500																								65700		
Sulfide	E376.1	µg/l									< 2000	< 2000																								< 2000		
Surfactants	E425.1	µg/l									< 100	< 100																								< 100		
Total Organic Carbon	E415.1	µg/l									< 1000	< 1000																								1700		

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW104																							MW105											
Sample Name:			MW-104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW-105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Well Screen Interval (ft bgs):			5 to 15	5 to 15	6 to 16	5 to 15	5 to 15	5 to 15	5 to 15	4/15/08	5 to 15	5 to 15	5 to 15	4/9/09	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
Sample Date:			5/23/06	10/5/06	1/16/07	4/13/07	7/19/07	10/15/07	1/11/08	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/28/17	4/4/18	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08	7/14/08	10/22/08	1/12/09	4/13/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																							NT														
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	4.0 J	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	9.0	4.8	< 10	< 10	< 10	< 10		<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			< 0.50	0.60	< 0.50	< 0.50	NT	0.43 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			2.7	10.3	6.1	4.7	6.9	5.6	2.3	< 2.0	3.9	5.9	< 2.0	< 2.0	2.8	4.2	< 2.0	< 2.0	2.6	1.9 J	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			33.0	98.9	57.1	46.8	68.3	86.6	38.7	33.0	71.5	74.3	33.2	37.9	47.1	73.9	19.6	24.3	< 1.0	28.4	27.1	9.7	38.1		21.1	25.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			3.3	9.4	2.9	10	2.6	4.5	1.7	1.8	5.1	2.4	2.6	2.1	2.2	3.6	1.9	6.1	1.1	1.9	0.95 J	0.40 J	1.40		0.64 J	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			198	435	244	250	194	279	148	145	203	192 F-	189	236 F-	212	334	112	154	67.3	93.6	95.2	49.8	77.3		83.9	67.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			2.2	9.3	6.2	3.6	2.5	4.1	3.5	2.0	3.2	2.7	2.4	3.0	2.6	2.6	1.1	6.4	< 1.0	3.1	2.3	0.64 J	1.1		1.5	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 F- K-	< 50	< 25 K-	< 25	< 25		<130	<130	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	10.0 J+	1.0	0.93 J J+	NT	7.2	1.1	0.72 J	3.9	2.4	0.63 J	< 1.0	0.98 J	1.8	< 1.0	< 1.0	0.90 J	< 1.0	< 1.0	< 1.0	0.61 J		<1.0	<1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			60.4	160	29.3	39.6	31.2	49.3	12.1	22.4	16.8	22.8	22.6	19.3	22.0	16.9	14	14.8	11.9	9.7	10.1	10.7	6.5		15.1	10.7	7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10		<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			21.0	138 J+	23.2	5.6 J+	28.0	89.8	12.5	10.8	42.9	26.1	13.3	11.8 F+	19.2	24.3 J+	4.4	5.1	11.4	4.3	5.1	2.8	8.6		4.1	3.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			63.4	110	49.1	51.4	40.4	< 1.0	27.0	34.9	37.1	38.2	44.8	53.7 F+	44.4	43.7	24.3	26.4	13.9	14.1	16.3	15.6	12.4		21.3	15	< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7	1.7	1.8	1.7	2.3
Vinyl chloride			23.7	36.4	47.4	40.4	38.2	68.0	26.4	29.9	41.8 F+	42.6	50.1	66.5	57.0	107.0	34.9	53.9	39.3	28.9	51.7	11.8	16.1		9.6	16.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT									NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																	NT	NT	NT	NT	NT	NT	NT	NT	NT													
Iron																	2900 J+	11800	10700	15300	8970	NT	NT	NT	NT													
Manganese																	1510	3000	2590	2860	1570	154	2440	1150	1950													
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					9890																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT									NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l															159	184	724	252	185	<10	20.2	29.9	54.8													
Ethane	8015	µg/l															1.77	2.0	5.4	3.6	3.2 J	<10	< 10	<10	2													
Ethylene	8015	µg/l															0.87	1.1	11.6	4.92	3.8 J	<10	2.3 J	<10	1.6													
Alkalinity	E310.1	µg/l															338000	373000	464000	413000	393000	298000	319000	429000	336000													
Chloride	E325.3	µg/l															32500	189000	100000	247000	82500	74500	125000	33700	145000													
Chlorine, Total Residual	E330.4	µg/l															< 50 A	< 50	< 50 R	< 50 A F-	< 50 A	< 50 A			1700													
Iron, Ferrous	3500FE B	µg/l															NT	NT	NT	NT	4800	<100	4600	1200	2400													
Nitrate & Nitrite as N	E353.2	µg/l															120	320	200	280	150	390	< 110	<110	2600													
Nitrogen, Nitrate	E353.2	µg/l															120	320	200	280	150	390	< 100	<100	2600													
Nitrogen, Nitrite	E354.1	µg/l															< 10	< 10	< 10	< 10	< 10	<10	< 10	<10	<10													
Sodium	6010C	µg/l															NT	NT	NT	NT	46400	NT	NT	NT	NT													
Sulfate	E375.4	µg/l															41700	45300	29300	52400	104000	62800	232000	113000	139000													
Sulfide	E376.1	µg/l															< 2000	< 2000	< 2000	< 2000	< 2000	< 2000			<2000													
Surfactants	E425.1	µg/l															< 100	120	190	< 100	< 100	<100	110	<100	130													
Total Organic Carbon	E415.1	µg/l															5900	7400	9800	8500	7500	7000	8600	6600	8200													

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW105						MW106						MW107						MW108						MW109			MW110			MW111			MW111		
Sample Name:			MW105 19 to 29 7/14/09 GEI	MW105 19 to 29 10/14/09 GEI	MW105 19 to 29 4/12/10 GEI	MW105 19 to 29 4/20/11 GEI	MW105 19 to 29 4/17/12 GEI	MW105 19 to 29 4/23/13 GEI	MW106 9 to 19 1/18/07 GEI	MW106 9 to 19 4/13/07 GEI	MW106 9 to 19 7/19/07 GEI	MW106 9 to 19 10/10/07 GEI	MW106 9 to 19 1/10/08 GEI	MW106 9 to 19 4/17/08 GEI	MW107 2 to 12 1/18/07 GEI	MW107 2 to 12 4/13/07 GEI	MW107 2 to 12 7/18/07 GEI	MW107 2 to 12 10/10/07 GEI	MW107 2 to 12 1/10/08 GEI	MW107 2 to 12 4/17/08 GEI	MW108 2 to 12 1/18/07 GEI	MW108 2 to 12 4/16/07 GEI	MW108 2 to 12 7/18/07 GEI	MW108 2 to 12 10/10/07 GEI	MW108 2 to 12 1/10/08 GEI	MW108 2 to 12 4/17/08 GEI	MW109 3 to 13 1/18/07 GEI	MW109 3 to 13 4/16/07 GEI	MW109 3 to 13 4/17/08 GEI	MW110 3 to 13 1/18/07 GEI	MW110 3 to 13 4/17/07 GEI	MW110 3 to 13 5/23/07 GEI	MW111 4 to 14 1/18/07 GEI	MW111 4 to 14 4/16/07 GEI	MW111 4 to 14 7/18/07 GEI	MW111 4 to 14 10/10/07 GEI	MW111 4 to 14 1/10/08 GEI	MW111 4 to 14 4/17/08 GEI
Well Screen Interval (ft bgs):																																						
Sample Date:																																						
Collected By:																																						
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	69.9	< 5.0	9.2	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 5.0	< 13	NT	< 25	< 0.50	< 1.0
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	7.7	< 5.0	1.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.28 J	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	< 2.0	< 100	< 2.0	< 4.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.2	NT	0.56 J	0.39 J	1.7	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	1.2	< 2.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.5	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.6	4.3	0.52 J	< 1.0	2.1	3.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	NT	30.9	15.7 J	16.8	19.1 J	5.6	4.3 C+
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	0.43 J	< 50	< 1.0	< 2.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	6.3	3.4	3.9	4.1	1.5	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	17.6	< 25	10.5	< 50	4.1	3.7 C+
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	22.6	17.2 J	56.3	63.9	10.6	4.4 C+
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	1.5	< 50	< 1.0	< 2.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25 K-	< 50	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 250	< 630	NT	< 1300	< 25	< 50
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	12.2	12.1	NT	252	78.0	4.9	< 1.0	< 1.0	NT	< 1.0	0.21 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	0.45 J	< 2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	31.4 J	NT	< 100	< 2.0	< 4.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	2.2	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	1.0 F-	1.2	2.3	1.7	2.3	0.44 J	< 1.0 F-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	178 F-	28.5	17.4	0.89 J F-	0.93 J	NT	13700 F-	7370	6340	8350	3100	1160 C+
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 100	< 250	NT	< 500	< 10	< 20
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	110	0.40 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15.3	1.5 J+	6.4	11.3	14.9	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.77 J	0.97 J	0.31 J	< 1.0	< 1.0	NT	142	56.5	89.1	84.1	41.3	17.6 C+
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
Trichloroethylene (TCE)			1.6	0.78 J	1.1	1.8	1.7	1.6	3.7	4.8	3.6	4.4	4.9	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.5	< 1.0	0.52 J	< 1.0	< 1.0	NT	150	84.4	120	125	42.1	19.9 C+
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic									< 10						< 10						< 10									2.9									
Iron									319						6160						< 100									84000									
Manganese									NT						NT						NT									NT									
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																							
Others			NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT
Methane	8015	µg/l							< 10						4.13 J						0.18 J									< 10		NT						
Ethane	8015	µg/l							< 10						< 10						< 10									< 10		NT						
Ethylene	8015	µg/l							< 10						< 10						< 10									< 10		NT						
Alkalinity	E310.1	µg/l							83100						174000						71100									122000		NT						
Chloride	E325.3	µg/l							1870000						100000						235000									142000		1010000						
Chlorine, Total Residual	E330.4	µg/l							NT						NT						NT									NT		< 50						
Iron, Ferrous	3500FE B	µg/l							NT						NT						NT									NT		NT						
Nitrate & Nitrite as N	E353.2	µg/l							12900						100						< 100									2400		NT						
Nitrogen, Nitrate	E353.2	µg/l							12800						< 110						< 110									2300		NT						
Nitrogen, Nitrite	E354.1	µg/l							83						< 10						< 10									54		NT						
Sodium	6010C	µg/l							NT						NT						NT									NT		NT						
Sulfate	E375.4	µg/l							86800						33400						28100									47700		NT						
Sulfide	E376.1	µg/l							< 2000						< 2000						< 2000									< 2000		NT						
Surfactants	E425.1	µg/l							< 100						150						< 100									< 100		NT						
Total Organic Carbon	E415.1	µg/l							1300						12200						1300									5700		NT						

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

			MW112A														MW112A															
Sample Location:																																
Sample Name:			MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW900 (FD)
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10	4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13	4/24/13	11/18/13	6/11/14	11/18/14	4/17/15	4/17/15
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20	< 10 K-	< 10 K-	< 10	< 10	< 10
Benzene			< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0 G	< 2.0
Chloroform			0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0 G	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0	73.5	18.3	64.1 G K-	23.2	25.2
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0	86.5	38.5	109 K+	39	42.9
cis-1,2-Dichloroethylene			< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145	112	209	150	321	71.1	84.1
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50	< 50	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1	64.6	4.6	47.3 K+	11.9	13.9
Methylene chloride			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339	581	371	266	398	303	300
Tetrahydrofuran			< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20	< 10	< 10	< 10	< 10	< 10
Toluene			0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5	8.0	1.5	3.6	1.3	1.4
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0	140	146	82.0	117	71	73
Vinyl chloride			0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	4.4	0.90 J	< 1.0	0.77 J G K-	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																				
Iron																																				
Manganese																																				
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																				
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			0.18 J B			< 0.30			0.66			0.10 J			< 10		< 10	
Ethane	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10			< 10		< 10	
Ethylene	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10			< 10		< 10	
Alkalinity	E310.1	µg/l																			233000			252000			245000			278000			285000		266000	
Chloride	E325.3	µg/l																			810000			915000			655000			857000			815000		700000	
Chlorine, Total Residual	E330.4	µg/l																			< 50 A			< 50			< 50 A			< 50 A F- J			< 50 A			
Iron, Ferrous	3500FE B	µg/l																			NT			NT			NT			NT			< 100		< 100	
Nitrate & Nitrite as N	E353.2	µg/l																			4700			3500			2600			1300			650		1200	
Nitrogen, Nitrate	E353.2	µg/l																			4700			3500			2600			1300			650		1200	
Nitrogen, Nitrite	E354.1	µg/l																			11			< 10			< 10			< 10			< 10		< 10	
Sodium	6010C	µg/l																			NT			NT			NT			NT			NT		NT	
Sulfate	E375.4	µg/l																			57100			52200			66100			68000			90900		63100	
Sulfide	E376.1	µg/l																			< 2000			< 2000			< 2000			< 2000			< 2000			
Surfactants	E425.1	µg/l																			< 100			< 100			< 100			< 100			< 100		< 100	
Total Organic Carbon	E415.1	µg/l																			1200			1100			< 1000			1500			< 1000		< 5000	

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A															
Sample Name:			MW112A 4 to 19 4/28/16 GEI	MW112A 4 to 19 11/21/16 GEI	MW112A 4 to 19 4/18/17 GEI	MW901 (FD) 4 to 19 4/18/2017 GEI	MW112A 4 to 19 11/10/2017 GEI	MW112A 4 to 19 4/4/2018 GEI	MW112A 4 to 19 11/15/2018 GEI	MW112A 4 to 19 4/15/2019 GEI	MW112A 4 to 19 11/22/2019 GEI	MW112A 4 to 19 4/16/2020 GEI	MW112A 4 to 19 11/18/2020 GEI	MW112A 4 to 19 4/13/2021 GEI	MW112A 4 to 19 11/30/2021 GEI	MW112A 4 to 19 4/14/2022 GEI	MW112A 4 to 19 11/29/2022 GEI	MW112A 4 to 19 5/11/2023 GEI
Well Screen Interval (ft bgs):																		
Sample Date:																		
Collected By:																		
Analyte	**Method**	**Units**																
Volatile Organic Compounds (VOCs)																		
Acetone	8260	µg/l	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<10
Benzene			< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	<1.3	<1.3	<1.3	<0.50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<1
Bromodichloromethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
2-Butanone (MEK)			< 5.0	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<5
Carbon disulfide			< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<2
Carbon tetrachloride			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<1
Chlorobenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Chloroethane			< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4
Chloroform			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Chloromethane			< 2.0	< 2.0	<2.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4
1,4-Dichlorobenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,1-Dichloroethane			14.1	77	34.1	30.1	88.1	25.3	25.3	38.5	36.9	51	48	40	35	24	35	50
1,2-Dichloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,1-Dichloroethylene			21.5	132	47.7	43.0	92.5	33.0	33.0	57.3	63.1	79	98	58	63	45	67	27
cis-1,2-Dichloroethylene			108	230	78.2	71.8	155	98.5	98.5	60.6	131.0	72	130	62	120	85	68	100
trans-1,2-Dichloroethylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,2-Dichloropropane			< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,4-Dioxane			< 25	< 50	<130	<130	< 250	<310	<310	<310	<130	<1200	<1200	<1200	<1200	<1200	<1200	<500
Ethylbenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
2-Hexanone			< 5.0	< 10	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<25	<25	<25	<25	<25	<25	<10
4-Isopropyltoluene			< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4
Methyl tert-butyl ether			3.9	53.9	11.6	11.4	56	19.1	19.1	25.9	21.7	27	30	19	12	5	13	10
Methylene chloride			< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4
Naphthalene			< 5.0	< 5.0	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<10	<10	<10	<10	<10	<10	<4
Tert-amyl methyl ether			< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Tetrachloroethylene (PCE)			258	508	435	404	908	317	317	555	463	750	760	630	460	370	560	300
Tetrahydrofuran			< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<10	<10	<10	<10	<10	<10	<4
Toluene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,1,1-Trichloroethane (TCA)			1.7	6.5	4.1	3.6	11.4	3.6	3.6	5.4	5.0	7.5	7.8	7.0	5.1	3.0	<5	4.1
1,1,2-Trichloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Trichloroethylene (TCE)			61.3	220.0	118.0	107	247	92.3	92.3	136	136	180	190	140	130	95	140	170
Vinyl chloride			< 1.0	1.3	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	1.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
m,p-Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4
o-Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Total Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Metals (Total)	6010B	µg/l		NT		NT	NT		NT		NT		NT		NT		NT	NT
Arsenic			NT		NT			NT		NT		NT		NT		NT		
Iron			NT		NT			NT		NT		NT		NT		NT		
Manganese			1530		627			2620		3360		2600		2550		635		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT
Iron										NT		NT						
Others				NT		NT	NT		NT		NT		NT		NT	NT	NT	
Methane	8015	µg/l	< 10		<10			320		6.7		17.6		5.88		2.11		3.94
Ethane	8015	µg/l	< 10		<10			12.2		<0.23		<0.500		<0.500		<0.500		<0.500
Ethylene	8015	µg/l	< 10		<10			<0.31		<0.31		<0.500		<0.500		<0.500		<0.500
Alkalinity	E310.1	µg/l	332000		339000			247000		259000		248000		234000		265000		249000
Chloride	E325.3	µg/l	700000		439000			170000		517000		440000		540000		410000		560000
Chlorine, Total Residual	E330.4	µg/l						280		<100		<20		<20		<20		<20
Iron, Ferrous	3500FE B	µg/l	< 100		<100			<200		<200		<500		<500		<500		<500
Nitrate & Nitrite as N	E353.2	µg/l	490		620			<100		490		330		240		<380		<100
Nitrogen, Nitrate	E353.2	µg/l	490		620			<110		480		334		217		<371		<100
Nitrogen, Nitrite	E354.1	µg/l	< 10		<10			<10		<10		<300		<300		<300		423
Sodium	6010C	µg/l	NT		NT			NT		NT		NT		NT		NT		NT
Sulfate	E375.4	µg/l	117000		71000			59200		551000		50000		50000		60000		44000
Sulfide	E376.1	µg/l						<200		<200		<100		<100		<100		<50
Surfactants	E425.1	µg/l	< 100		<100			<100		<100		<50		<50		<50		70
Total Organic Carbon	E415.1	µg/l	< 1000		<1000			1700		<1000		750		700		750		2600

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116																												
Sample Name:			MW116 5 to 15 3/23/07 GEI	MW116 5 to 15 4/16/07 GEI	MW116 5 to 15 7/18/07 GEI	MW901 (FD) 5 to 15 7/18/07 GEI	MW116 5 to 15 10/12/07 GEI	MW901 (FD) 5 to 15 10/12/07 GEI	MW116 5 to 15 1/11/08 GEI	MW901 (FD) 5 to 15 1/11/08 GEI	MW116 5 to 15 4/15/08 GEI	MW901 (FD) 5 to 15 4/15/08 GEI	MW116 5 to 15 7/16/08 GEI	MW116 5 to 15 10/21/08 GEI	MW116 5 to 15 1/14/09 GEI	MW116 5 to 15 4/15/09 GEI	MW116 5 to 15 7/14/09 GEI	MW116 5 to 15 10/14/09 GEI	MW116 5 to 15 4/13/10 GEI	MW901 (FD) 5 to 15 4/13/10 GEI	MW116 5 to 15 4/21/11 GEI	MW901 (FD) 5 to 15 4/21/11 GEI	MW116 5 to 15 4/17/12 GEI	MW901 (FD) 5 to 15 4/17/12 GEI	MW116 5 to 15 4/24/13 GEI	MW901 (FD) 5 to 15 4/24/13 GEI	MW116 5 to 15 5/1/14 GEI	MW900 (FD) 5 to 15 5/1/14 GEI	MW116 5 to 15 4/2/15 GEI	MW900 (FD) 5 to 15 4/2/15 GEI
Well Screen Interval (ft bgs):																															
Sample Date:																															
Collected By:																															
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20	< 20
Benzene			0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane			< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10
Carbon disulfide			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
Chlorobenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane			< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0
Chloroform			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloromethane			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane			135	4.4	97.3	96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9	
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethylene			107	2.7	33.8	34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8	
cis-1,2-Dichloroethylene			103	21.7	415	431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114	111	
trans-1,2-Dichloroethylene			1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	<2.0	
1,2-Dichloropropane			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	
1,4-Dioxane			< 25	< 25	NT	NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25	< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50	< 50	
Ethylbenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	
2-Hexanone			< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	
4-Isopropyltoluene			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	
Methyl tert-butyl ether			12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9	
Methylene chloride			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	
Naphthalene			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	
Tert-amyl methyl ether			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0	
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	
Tetrachloroethylene (PCE)			1180	32.2	167	168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726	695	
Tetrahydrofuran			30.6	13.8	NT	NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20	
Toluene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	
1,1,1-Trichloroethane (TCA)			21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6	
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	
Trichloroethylene (TCE)			358	19.4	72.7	73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188	183	
Vinyl chloride			14.1	3.2	185	182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8	
m,p-Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	
o-Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	
Total Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Chlorine, Total Residual	E330.4	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Sulfide	E376.1	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116																MW117D																			
Sample Name:			MW116 5 to 15 4/29/16 GEI	MW900 (FD) 5 to 15 4/29/16 GEI	MW116 5 to 15 4/17/17 GEI	MW900 (FD) 5 to 15 4/17/17 GEI	MW116 5 to 15 4/4/18 GEI	MW900 (FD) 5 to 15 4/4/18 GEI	MW116 5 to 15 4/16/19 GEI	MW900 (FD) 5 to 15 4/16/19 GEI	MW116 5 to 15 4/17/20 GEI	MW900 (FD 5 to 15 4/17/20 GEI	MW116 5 to 15 4/14/21 GEI	MW900 5 to 15 4/14/21 GEI	MW116 5 to 15 4/14/22 GEI	MW900 5 to 15 4/14/22 GEI	MW116 5 to 15 4/18/23 GEI	MW900 5 to 15 4/18/23 GEI	MW117D 60 to 70 7/19/07 GEI	MW117D 60 to 70 10/11/07 GEI	MW117D 60 to 70 1/15/08 GEI	MW117D 60 to 70 4/16/08 GEI	MW117D 60 to 70 7/16/08 GEI	MW117D 60 to 70 10/21/08 GEI	MW117D 60 to 70 1/13/09 GEI	MW117D 60 to 70 4/14/09 GEI	MW117D 60 to 70 7/15/09 GEI	MW117D 60 to 70 10/14/09 GEI	MW117D 60 to 70 4/13/10 GEI	MW117D 60 to 70 4/20/11 GEI	MW117D 60 to 70 4/16/12 GEI	MW117D 60 to 70 4/24/13 GEI	MW117D 60 to 70 5/1/14 GEI	MW117D 60 to 70 4/2/15 GEI	MW117D 60 to 70 4/28/16 GEI	MW117D 60 to 70 4/17/17 GEI	MW117D 60 to 70 4/3/18 GEI	MW117D 60 to 70 4/15/19 GEI
Well Screen Interval (ft bgs):																																						
Sample Date:																																						
Collected By:																																						
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	< 20	< 10	<10	<10	<10	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10
Benzene			< 1.0	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	<2.5	<1.2	<1.2	<0.50	<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5
Bromodichloromethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 10	< 5.0	<10	<10	<10	<10	<10	<10	<25	<25	<25	<25	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10
Carbon disulfide			< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	6.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	0.43 J	<1.0	<1.0
Chloromethane			< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			38.3	45.0	49.4	49.8	44.1	46.2	22.7	53.9	70	75	39	40	30	29	28	27	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			27.7	36.4	35.1	34.4	19.7	20.9	9.4	31.3	30	39	27	27	20	20	23	23	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			50.6	59	67.5	67.2	42.6	44.2	27.3	112.0	120	130	110	110	140	130	150	150	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 2.0	< 1.0	0.42 J	0.45 J	1.1	1.2	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 50	< 50	<130	<130	<130	<130	<130	<130	<1200	<1200	<620	<620	<250	<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<130	<130	<130
Ethylbenzene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 2.0	0.79 J	1.6	1.6	1.1	1.2	<1.0	3.5	<10	<10	<5.0	<5.0	2.3	2.2	2.3	2.2	NT	1.6	2.3	1.5	< 1.0	1.5	0.96 J	0.86 J	1.3	1.5	1.2	< 1.0	< 1.0	6.8	< 1.0	< 1.0	0.66 J	1.3	<1.0	1.4
Methylene chloride			< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	4.9 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Tert-amyl methyl ether			< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			450	436	482	456	233	253	129	404	520	550	340	340	120	120	130	130	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			<20	< 10	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10
Toluene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	0.98 J	< 1.0	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			3.8	4.4	3.8	3.7	1.8	2.0	1.0	2.6	<5.0	<5.0	2.6	2.6	3.2	3.2	2.8	2.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			113	139	131	129	83.3	86.3	37	157	200	220	120	120	35	34	53	54	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 2.0	< 1.0	1.6	1.4	<1.0	<1.0	<1.0	20.2	22	29	50	49	130	120	87	86	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
o-Xylene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117D				MW117S																							
Sample Name:			MW117D	MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S
Well Screen Interval (ft bgs):			60 to 70	60 to 70	60 to 70	60 to 70	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			4/16/20	4/13/21	4/12/22	4/17/23	7/18/07	10/15/07	1/11/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/14/09	4/13/10	4/21/11	4/16/12	4/24/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																												
Volatile Organic Compounds (VOCs)																														
Acetone	8260	µg/l	<5.0	<5.0	5.8	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<0.10	<5.0	<5.0	<5.0	<5.0
Benzene			<0.5	<0.5	<0.5	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			<250	<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			2	2	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																														
Iron																														
Manganese																														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																														
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																												
Ethane	8015	µg/l																												
Ethylene	8015	µg/l																												
Alkalinity	E310.1	µg/l																												
Chloride	E325.3	µg/l																												
Chlorine, Total Residual	E330.4	µg/l																												
Iron, Ferrous	3500FE B	µg/l																												
Nitrate & Nitrite as N	E353.2	µg/l																												
Nitrogen, Nitrate	E353.2	µg/l																												
Nitrogen, Nitrite	E354.1	µg/l																												
Sodium	6010C	µg/l																												
Sulfate	E375.4	µg/l																												
Sulfide	E376.1	µg/l																												
Surfactants	E425.1	µg/l																												
Total Organic Carbon	E415.1	µg/l																												

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117T											MW117T												
Sample Name:			MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T
Well Screen Interval (ft bgs):			35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45
Sample Date:			7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/16/09	4/13/10	4/21/11	4/16/12	4/23/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			NT	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			NT	3.4	9.8	4.8	1.7	2.8	1.9	4.1	1.5	7.0	1.6	1.4	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
Total Organic Carbon	E415.1	µg/l																								

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118D																							
Sample Name:			MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW901 (FD	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
Well Screen Interval (ft bgs):			70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
Sample Date:			7/20/07	8/30/07	10/11/07	1/16/08	4/16/08	7/16/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	< 10	< 10
Benzene			NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
Carbon disulfide			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1
Chloroform			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			20.3	21.4	31.2	31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9	37.7
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J
cis-1,2-Dichloroethylene			0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8	8.6
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J	0.68 J	< 1.0 K+	0.62 J	2.2	2.9	0.81 J
1,2-Dichloropropane			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25	< 25	< 50
Ethylbenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3
Methylene chloride			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			7.0	8.4	8.2	6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8	6.5
Tetrahydrofuran			NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4	3.3
Vinyl chloride			< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
Total Organic Carbon	E415.1	µg/l																								

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118D													MW118S																							
Sample Name:			MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Well Screen Interval (ft bgs):			70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
Sample Date:			4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/12/2022	11/29/2022	4/17/2023	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/09	7/15/09	10/14/09	4/12/10	4/20/11	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 10	< 10	< 10	< 10	<10	<10	40	<5.0	<5.0
Benzene			<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0
Carbon disulfide			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			1.1	3.4	3.7	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			34.8	27.4	21.9	20.0	18.6	33.9	44	27	25	22	30	29	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			0.78 J	< 1.0	< 1.0	< 1.0	<1.0	2.6	2.4	1.3	< 1.0	< 1.0	< 1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			7.9	5	4.3	3.7	3.2	57.3	53	10	5.8	4.7	4.1	3.9	3.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			0.55 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			<130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250	<250	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3	<2.0	<2.0	<2.0	3.1	<2.0
Methyl tert-butyl ether			0.81 J	< 1.0	1.1	1.3	1.3	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0
Methylene chloride			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			5.8	2.7	2.7	1.8	1.6	40.9	38	27	2.2	1.1	<1.0	1.1	<1	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			<10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0
Toluene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			2.6	1.7	1.5	1.5	1.1	11.4	11	7.9	2.7	1.7	<1.0	1.1	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			0.93 J	2.4	1.9	< 1.0	1.1	11.8	19	3.8	3.3	1.9	<1.0	2.6	2.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118S	MW118T																								
Sample Name:			MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
Well Screen Interval (ft bgs):			3 to 14	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5
Sample Date:			4/17/23	7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09	7/14/09	10/15/09	4/12/10	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19	4/17/20	4/13/21	4/12/22	4/17/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																										
Volatile Organic Compounds (VOCs)																												
Acetone	8260	µg/l	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			<0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			<1.0	35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8	35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8	23	16	1.5	15
1,2-Dichloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			<1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			<250	NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			<2.0	NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0	2.1	<2.0	<2.0	<2.0
Methylene chloride			<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			<1.0	3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0	1.4	1.1	<1.0	1.0
Tetrahydrofuran			<2.0	NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			<1.0	< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			<1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																												
Iron																												
Manganese																												
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																												
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																										
Ethane	8015	µg/l																										
Ethylene	8015	µg/l																										
Alkalinity	E310.1	µg/l																										
Chloride	E325.3	µg/l																										
Chlorine, Total Residual	E330.4	µg/l																										
Iron, Ferrous	3500FE B	µg/l																										
Nitrate & Nitrite as N	E353.2	µg/l																										
Nitrogen, Nitrate	E353.2	µg/l																										
Nitrogen, Nitrite	E354.1	µg/l																										
Sodium	6010C	µg/l																										
Sulfate	E375.4	µg/l																										
Sulfide	E376.1	µg/l																										
Surfactants	E425.1	µg/l																										
Total Organic Carbon	E415.1	µg/l																										

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119S					MW119S																		MW119T												
Sample Name:			MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47
Sample Date:			8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	4/17/23	8/22/07	10/12/07	1/16/08	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10
Benzene			< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	9.2 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.4 J+	11.0	10.9	10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2	9.4	6.4	5.9
1,2-Dichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0 J+	6.4	6.0	6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4	7.0	4.4	4.2
cis-1,2-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.54 J J+	1.2	1.1	1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0	< 1.0	0.95 J	0.80 J
trans-1,2-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50
Ethylbenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			5.2 J+	2.0	2.1	0.83 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	4.1 J+	0.66 J	0.64 J	0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	9.1 K-
Methylene chloride			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	94.3 J+	105	85.0	86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4	74.6	75.1	68.5
Tetrahydrofuran			< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.69 J	0.52 J	2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25.9 J+	29.6	26.7	26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1	23.2	21.0	21.3
Vinyl chloride			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																								
Iron																																								
Manganese																																								
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																								
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																						
Ethane	8015	µg/l																																						
Ethylene	8015	µg/l																																						
Alkalinity	E310.1	µg/l																																						
Chloride	E325.3	µg/l																																						
Chlorine, Total Residual	E330.4	µg/l																																						
Iron, Ferrous	3500FE B	µg/l																																						
Nitrate & Nitrite as N	E353.2	µg/l																																						
Nitrogen, Nitrate	E353.2	µg/l																																						
Nitrogen, Nitrite	E354.1	µg/l																																						
Sodium	6010C	µg/l																																						
Sulfate	E375.4	µg/l																																						
Sulfide	E376.1	µg/l																																						
Surfactants	E425.1	µg/l																																						
Total Organic Carbon	E415.1	µg/l																																						

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119T										MW120D																							
Sample Name:			MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D
Well Screen Interval (ft bgs):			42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38
Sample Date:			5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	4/17/23	8/22/07	10/12/07	1/17/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																		
Volatile Organic Compounds (VOCs)																																				
Acetone	8260	µg/l	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			5.6	5.9	4.4	4.9	4.0	1.8	4.3	2.7	1.1	2.6	23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	12.8	3.1	16.0	12.0	3.8	1.7
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			4.1	4.5	3.4	3.7	2.4	<1.0	3.3	1.9	<1.0	2.6	15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	14.1	1.3	14	10	1.6	1.6
cis-1,2-Dichloroethylene			< 1.0	0.70 J	0.65 J	0.82 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			1.5	0.98 J	< 1.0	0.55 J	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			56.4	54.5	55.7	50.6	33.0	2.6	52.0	32.0	3.1	36	93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	49.9	7.7	59.0	36.0	6.5	5.2
Tetrahydrofuran			< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	1.1	< 1.0	0.25 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	1.1	<1.0	1.2	1.2	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			16.8	20.2	18.3	17.6	12.8	2.5	17.0	10.0	1.6	10.0	32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	18.6	3.4	21.0	14.0	2.9	2.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																				
Iron																																				
Manganese																																				
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																				
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																		
Ethane	8015	µg/l																																		
Ethylene	8015	µg/l																																		
Alkalinity	E310.1	µg/l																																		
Chloride	E325.3	µg/l																																		
Chlorine, Total Residual	E330.4	µg/l																																		
Iron, Ferrous	3500FE B	µg/l																																		
Nitrate & Nitrite as N	E353.2	µg/l																																		
Nitrogen, Nitrate	E353.2	µg/l																																		
Nitrogen, Nitrite	E354.1	µg/l																																		
Sodium	6010C	µg/l																																		
Sulfate	E375.4	µg/l																																		
Sulfide	E376.1	µg/l																																		
Surfactants	E425.1	µg/l																																		
Total Organic Carbon	E415.1	µg/l																																		

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW120S									MW120S														
Sample Name:			MW120S	MW120S	MW120S	MW1120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	5.3	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			0.56 J J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
Chloroform			1.9 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			10.3 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			1.1 J+	4.3	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	0.97 J	< 1.0	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
Total Organic Carbon	E415.1	µg/l																								

General Notes:
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2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

			Sample Location:	MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW900 (FD)	MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
			Sample Name:	MW121D 32.1 to 47.1 10/22/07 GEI	MW121D 32.1 to 47.1 1/15/08 GEI	MW121D 32.1 to 47.1 4/17/08 GEI	MW121D 32.1 to 47.1 7/14/08 GEI	MW901 32.1 to 47.1 7/14/08 GEI	MW121D 32.1 to 47.1 10/22/08 GEI	MW900 (FD) 32.1 to 47.1 10/22/08 GEI	MW121D 32.1 to 47.1 1/12/09 GEI	MW901 (FD) 32.1 to 47.1 1/12/09 GEI	MW121D 32.1 to 47.1 4/13/09 GEI	MW900 (FD) 32.1 to 47.1 4/13/09 GEI	MW121D 32.1 to 47.1 7/14/09 GEI	MW900 (FD) 32.1 to 47.1 7/14/09 GEI	MW121D 32.1 to 47.1 10/14/09 GEI	MW121D 32.1 to 47.1 4/12/10 GEI	MW121D 32.1 to 47.1 4/20/11 GEI	MW121D 32.1 to 47.1 4/16/12 GEI	MW121D 32.1 to 47.1 11/12/12 GEI	MW121D 32.1 to 47.1 4/23/13 GEI	MW121D 32.1 to 47.1 11/18/13 GEI	MW121D 32.1 to 47.1 4/30/14 GEI	MW121D 32.1 to 47.1 11/18/14 GEI	MW121D 32.1 to 47.1 4/2/15 GEI	MW121D 32.1 to 47.1 11/19/15 GEI	MW121D 32.1 to 47.1 4/28/16 GEI	MW121D 32.1 to 47.1 11/21/16 GEI	MW121D 32.1 to 47.1 4/17/17 GEI	MW121D 32.1 to 47.1 11/8/17 GEI	MW121D 32.1 to 47.1 4/3/18 GEI
			Well Screen Interval (ft bgs):																													
			Sample Date:																													
			Collected By:																													
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10	< 10	< 10	< 10
Benzene				< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10
Carbon disulfide				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0
Carbon tetrachloride				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Chloroform				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane				46.3	55.3	46.6	37.2	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9	65.8	67.7	49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0	32.0	47.6	14.8
1,2-Dichloroethane				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene				13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0	24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9	14.8	15.3	7.6
cis-1,2-Dichloroethylene				3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106	253	279	217	178	122	193	67.2	133	316	186	73.6	108	271	79.9	119	24.8
trans-1,2-Dichloroethylene				< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1	0.37 J	< 1.0	< 1.0
1,2-Dichloropropane				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
1,4-Dioxane				< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25 K-	< 25 K-	<25	<25	<25	< 50	< 130	< 130	< 130
Ethylbenzene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 1.0	<2.0
Methyl tert-butyl ether				3.0	3.8	2.4	2.1	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J	2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7	1.4	1.4	<1.0
Methylene chloride				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
Naphthalene				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)				182	258	177	157	154	148 G	97.7 G	112	114	121	118	140	139	115	119	219	356	223	276	124	163	224	216	216	227	139	160	242	78
Tetrahydrofuran				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene				0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)				1.2	1.3	1.2	1.1	1.0	4.9	4.6	0.87 J	0.86 J	1.0	1.0	0.95 J	1.0	< 1.0	0.62 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0	0.45 J	< 1.0	< 1.0
1,1,2-Trichloroethane				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)				59.6	136	68.8	71.0	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3	233.0	342	207	342	115	236	432	266	148	262	176	159	310	39.7
Vinyl chloride				0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0	7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3	6.6	10.4	<1.0
m,p-Xylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																
Iron																																
Manganese																																
Metals (Dissolved)	6010C	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																														
Ethane	8015	µg/l																														
Ethylene	8015	µg/l																														
Alkalinity	E310.1	µg/l																														
Chloride	E325.3	µg/l																														
Chlorine, Total Residual	E330.4	µg/l																														
Iron, Ferrous	3500FE B	µg/l																														
Nitrate & Nitrite as N	E353.2	µg/l																														
Nitrogen, Nitrate	E353.2	µg/l																														
Nitrogen, Nitrite	E354.1	µg/l																														
Sodium	6010C	µg/l																														
Sulfate	E375.4	µg/l																														
Sulfide	E376.1	µg/l																														
Surfactants	E425.1	µg/l																														
Total Organic Carbon	E415.1	µg/l																														

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

			Sample Location:	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S
			Sample Name:	MW121D 32.1 to 47.1 11/15/18 GEI	MW121D 32.1 to 47.1 4/15/19 GEI	MW121D 32.1 to 47.1 11/22/19 GEI	MW121D 32.1 to 47.1 4/16/20 GEI	MW121D 32.1 to 47.1 11/18/20 GEI	MW121D 32.1 to 47.1 4/13/21 GEI	MW121D 32.1 to 47.1 11/30/21 GEI	MW121D 32.1 to 47.1 4/13/22 GEI	MW121D 32.1 to 47.1 11/29/22 GEI	MW121D 32.1 to 47.1 4/18/23 GEI	MW121S 5 to 20 10/22/07 GEI	MW121S 5 to 20 1/15/08 GEI	MW121S 5 to 20 4/17/08 GEI	MW121S 5 to 20 7/14/08 GEI	MW121S 5 to 20 10/22/08 GEI	MW121S 5 to 20 1/12/09 GEI	MW121S 5 to 20 4/13/09 GEI	MW121S 5 to 20 7/14/09 GEI	MW121S 5 to 20 10/14/09 GEI	MW121S 5 to 20 4/12/10 GEI	MW121S 5 to 20 4/20/11 GEI	MW121S 5 to 20 4/16/12 GEI	MW121S 5 to 20 4/23/13 GEI	MW121S 5 to 20 4/30/14 GEI	MW121S 5 to 20 4/2/15 GEI	MW121S 5 to 20 4/28/16 GEI	MW121S 5 to 20 4/17/17 GEI	MW121S 5 to 20 4/3/18 GEI	MW121S 5 to 20 4/15/19 GEI	MW121S 5 to 20 4/16/20 GEI	MW121S 5 to 20 4/13/21 GEI	MW121S 5 to 20 4/13/22 GEI	MW121S 5 to 20 4/13/22 GEI
			Well Screen Interval (ft bgs):																																						
			Sample Date:																																						
			Collected By:																																						
Analyte	**Method**	**Units**																																							
Volatile Organic Compounds (VOCs)																																								
Acetone	8260	µg/l	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			14.0	18.8	18.0	16	12	18	18	18	38	24	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			7.0	7.7	8.7	8.6	8.0	7.5	6.3	2.3	7.3	5.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			44.3	73.5	85.4	20	26	37	18	33	11	17	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25 K-	< 25	< 25	<130	<130	<130	<250	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			47.5	48.2	64.8	87	58	72	52	1.9	54	35	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			23.5	31.1	40.0	34	22	40	27	5	32.0	20.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			6.1	9	4.5	<1.0	2.0	1.5	1.0	31.0	3.0	8.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																			
Iron																																			
Manganese																																			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																	
Ethane	8015	µg/l																																	
Ethylene	8015	µg/l																																	
Alkalinity	E310.1	µg/l																																	
Chloride	E325.3	µg/l																																	
Chlorine, Total Residual	E330.4	µg/l																																	
Iron, Ferrous	3500FE B	µg/l																																	
Nitrate & Nitrite as N	E353.2	µg/l																																	
Nitrogen, Nitrate	E353.2	µg/l																																	
Nitrogen, Nitrite	E354.1	µg/l																																	
Sodium	6010C	µg/l																																	
Sulfate	E375.4	µg/l																																	
Sulfide	E376.1	µg/l																																	
Surfactants	E425.1	µg/l																																	
Total Organic Carbon	E415.1	µg/l																																	

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW122																							MW122									
Sample Name:			MW122 4 to 16 1/30/08 GEI	MW122 4 to 16 4/17/08 GEI	MW122 4 to 16 7/14/08 GEI	MW122 4 to 16 10/22/08 GEI	MW122 4 to 16 1/12/09 GEI	MW122 4 to 16 4/13/09 GEI	MW122 4 to 16 7/15/09 GEI	MW122 4 to 16 10/14/09 GEI	MW122 4 to 16 4/12/10 GEI	MW122 4 to 16 10/27/10 GEI	MW122 4 to 16 4/20/11 GEI	MW122 4 to 16 11/16/11 GEI	MW122 4 to 16 4/17/12 GEI	MW122 4 to 16 11/12/12 GEI	MW122 4 to 16 4/23/13 GEI	MW122 4 to 16 11/18/13 GEI	MW122 4 to 16 4/30/14 GEI	MW122 4 to 16 11/18/14 GEI	MW122 4 to 16 4/2/15 GEI	MW122 4 to 16 11/19/15 GEI	MW122 4 to 16 4/28/16 GEI	MW122 4 to 16 11/21/16 GEI	MW122 4 to 16 4/17/2017 GEI	MW122 4 to 16 11/8/2017 GEI	MW122 4 to 16 4/3/2018 GEI	MW122 4 to 16 11/15/2018 GEI	MW122 4 to 16 4/16/2019 GEI	MW122 4 to 16 11/22/2019 GEI	MW122 4 to 16 4/16/2020 GEI	MW122 4 to 16 11/18/2020 GEI	MW122 4 to 16 4/13/2021 GEI	MW122 4 to 16 11/30/2021 GEI	MW122 4 to 16 4/13/2022 GEI	MW122 4 to 16 11/29/2022 GEI	MW122 4 to 16 4/17/2023 GEI
Well Screen Interval (ft bgs):																																			
Sample Date:																																			
Collected By:																																			
Analyte	**Method**	**Units**																																	
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<25	<100	<100	<50	<50
Benzene			< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5	< 0.50	<2.5	<2.5	<1.0	<2.5	<5.0	<5.0	<2.5	<10	<10	<5	<5
Bromodichloromethane			< 1.0	1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
2-Butanone (MEK)			< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<50	<100	<100	<50	<50
Carbon disulfide			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<5	<40	<40	<20	<20
Carbon tetrachloride			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	<10
Chlorobenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Chloroethane			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20
Chloroform			< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
Chloromethane			< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20
1,4-Dichlorobenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	<10
1,1-Dichloroethane			19.3	30.4 C+	10.1	15.0	16.0	25.8	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9	14.8	22.7	17.0	18.8	16.4	29	48	44	46	35	24	18
1,2-Dichloroethane			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
1,1-Dichloroethylene			4.0	9.0 C+	1.4	4.4	3.4	6.1	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7	3.9	8.1	7.3	6.1	6.9	<10	12	6.9	<20	<20	<10	<10
cis-1,2-Dichloroethylene			60.6	70.7 C+	34.0	62.5	91.5	61.9	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2	50	64.4	71.0	69.1	95.8	150	150	110	130	130	180	110
trans-1,2-Dichloroethylene			0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
1,2-Dichloropropane			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
1,4-Dioxane			< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 50	< 25	< 25	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630	< 130	<630	<630	<250	<630	<2500	<2500	<1200	<5000	<5000	<2500	<2500
Ethylbenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
2-Hexanone			< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25	< 5.0	<25	<25	<2.0	<25	<50	<50	<25	<100	<100	<50	<50
4-Isopropyltoluene			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	<20
Methyl tert-butyl ether			3.3	3.9 C+	1.9	5.6	2.5	3.2	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7	1.1	<5.0	<5.0	2.1	<5.0	<20	<20	<10	<40	<40	<20	<20
Methylene chloride			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	<20
Naphthalene			< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0	<25	<25	<10	<25	<20	<20	<10	<40	<40	<20	<20
Tert-amyl methyl ether			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<10	<40	<40	<20	<20
1,1,1,2-Tetrachloroethane			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0	<25	<25	<10	<25	<20	<20	<10	<40	<40	<20	<20
Tetrachloroethylene (PCE)			477	691 C+	122	352 G	312	499 G	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910	579	959	1150	1060	961	1200	1400	820	1600	1700	1200	1700
Tetrahydrofuran			< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50	< 10	<50	<50	<2.0	<50	<20	<20	<10	<40	<40	<20	<20
Toluene			0.48 J	< 2.0	2.8	3.7	0.64 J	2.4	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0	20.7	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
1,1,1-Trichloroethane (TCA)			1.4	3.4 C+	0.63 J	5.1	1.1	1.7	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
1,1,2-Trichloroethane			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
Trichloroethylene (TCE)			177	106 C+	27.0	56.9	59.6	91.7	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0	63.3	110.0	122	121	131	140	170	130	220	210	160	170
Vinyl chloride			0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0	1.3	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
m,p-Xylene			< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20
o-Xylene			< 1.0	< 2.0	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Total Xylene			< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																					
Iron																																					
Manganese																																					
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																			
Ethane	8015	µg/l																																			
Ethylene	8015	µg/l																																			
Alkalinity	E310.1	µg/l																																			
Chloride	E325.3	µg/l																																			
Chlorine, Total Residual	E330.4	µg/l																																			
Iron, Ferrous	3500FE B	µg/l																																			
Nitrate & Nitrite as N	E353.2	µg/l																																			
Nitrogen, Nitrate	E353.2	µg/l																																			
Nitrogen, Nitrite	E354.1	µg/l																																			
Sodium	6010C	µg/l																																			
Sulfate	E375.4	µg/l																																			
Sulfide	E376.1	µg/l																																			
Surfactants	E425.1	µg/l																																			
Total Organic Carbon	E415.1	µg/l																																			

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW201				MW202																							
Sample Name:			MW201	MW201	MW201	MW201	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
Well Screen Interval (ft bgs):			11 to 21	11 to 21	11 to 21	11 to 21	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5
Sample Date:			7/19/07	10/12/07	1/11/08	4/15/08	7/19/07	10/12/07	1/11/08	4/15/08	7/15/08	10/21/08	1/13/09	4/15/09	7/14/09	10/14/09	4/12/10	4/22/11	4/17/12	4/23/13	5/1/14	4/2/15	4/29/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																												
Volatile Organic Compounds (VOCs)																														
Acetone	8260	µg/l	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	9.7	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			NT	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			NT	0.47 J	0.40 J	0.24 J	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	0.66 J	< 1.0	0.23 J	0.50 J	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0	< 1.0	3.1	5.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			4.7	4.9	5.2	3.0	1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2	< 1.0	< 1.0	< 1.0	15.5	< 1.0	2.4	0.93 J	0.92 J	< 1.0	0.46 J	1.1	1.5	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			NT	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 50	<25	<25	<130	<130	<130	<250	<250	<250	<250	<250
Ethylbenzene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			NT	75.8	240	0.26 J	NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NT	4.6	17.7	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			5.1	19.6	25.8	18.0	17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5	52.6	61.8	84.9	86.5	20.6	37.0	31.4	28.1	40.8	20.0	39.4	68.9	20.0	14.0	5.4	12.0
Tetrahydrofuran			NT	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			9.8	36.3	32.9	7.3	12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7	6.6	14.3 J+	16.8	18.6	2.8	5.2	6.9	7.4	7.1	3.5	8.1	9.8	2.7	1.7	<1.0	1.2
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			4.5	7.2	8.2	6.4	2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+	7.2	9.8	12.9	8.2	1.5	2.5	1.5	1.4	1.5	0.81 J	1.5	2.2	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Chlorine, Total Residual	E330.4	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Sulfide	E376.1	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW203		MW-3												MW- CS1	SH-1	SH-3	SH-4	SH-MW1						SH-MW2								
Sample Name:			MW203	MW203	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-CS1	SH-1	SH-3	SH-4	SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2
Well Screen Interval (ft bgs):			6 to 18	6 to 18	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 14	8 to 13	11 to 16	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25
Sample Date:			7/19/07	4/15/08	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/16/09	5/23/07	8/9/04	8/9/04	5/25/06	7/8/02	5/23/06	10/4/06	1/16/07	4/12/07	7/8/02	8/16/04	5/23/06	10/4/06	1/16/07	4/16/07	7/19/07	4/28/17	4/4/18	4/16/19
Collected By:			GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GeoInsight	GEI	SHA	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	NT	< 250	< 2500	< 2000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 4000	< 2000	30.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 2000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10
Benzene			NT	< 25	< 250	< 100	0.37 J	0.71	< 13	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 200	< 100	< 0.50	< 250	< 0.50	0.61	< 0.50	0.33 J	< 25	< 100	< 0.50	< 0.50	< 0.50	< 1.0	NT	<0.50	<0.50	<0.50
Bromodichloromethane			NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
2-Butanone (MEK)			NT	< 250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 2000	< 1000	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10
Carbon disulfide			NT	< 250	< 2500	< 5.0	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.54 J	< 1000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			NT	< 50	< 250	< 100	< 1.0	0.52 J	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	0.52 J	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 100	< 5.0	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 200	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			NT	< 50	< 380	< 100	2.1	3.4	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	13.3	< 380	2.1	4.6	1.7	3.4	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Chloromethane			NT	< 100	< 1200	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 1200	< 2.0	< 2.0	< 2.0	< 2.0	< 120	< 200	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			NT	< 50	< 1200	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 1200	< 1.0	< 1.0	< 1.0	< 1.0	< 120	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
1,1-Dichloroethane			22.2	13.0 J	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	15.9	< 380	11.4	12.0	8.5	12.7	< 38	< 100	1.0	20.9	5.7	< 2.0	12.4	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	103	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			76.4	36.6 J	< 250	< 100	6.9	5.6	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	556 E	< 250	11.7	19.3	9.0	24.4	< 25	< 100	10.1	45.0	9.8	2.1	23.8	0.65 J	<1.0	<1.0
cis-1,2-Dichloroethylene			102	78.9	< 250	< 100	< 1.0	1.9	< 25	< 1.0	0.56 J	< 1.0	< 1.0	< 1.0	0.43 J	2.3 J+	< 1.0	< 200	< 100	16.6	< 250	2.1	7.3	11.2	2.7	< 25	< 100	3.9	45.7	14.7	1.4 J	26.1	1.7	2.3	3.1
trans-1,2-Dichloroethylene			1.2	< 50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			NT	< 100	< 880	< 100	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 100	< 2.0	< 880	< 2.0	< 2.0	< 2.0	< 2.0	< 88	< 100	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0
1,4-Dioxane			NT	< 1300	NT	NT	< 25	< 25	< 630	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	NT	57700	NT	< 25	< 25 R	< 25	< 25	NT	NT	< 25	< 25 R	< 25	< 5.0	NT	<130	<130	<130
Ethylbenzene			NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
2-Hexanone			NT	< 250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 1000	5.3	NT	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0
4-Isopropyltoluene			NT	< 250	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0
Methyl tert-butyl ether			NT	< 50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	66.4	< 200	< 100	< 1.0	< 5.0	< 1.0	0.71 J J+	< 1.0	0.74 J J+	< 5.0	< 100	< 1.0	8.7 J+	1.4	< 2.0	NT	<1.0	<1.0	<1.0
Methylene chloride			NT	< 100	< 2500	< 1000	< 2.0	< 2.0	71.5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2000	< 1000	12.2	< 2500	< 2.0	< 2.0	< 2.0	< 2.0	< 250	< 1000	< 2.0	< 2.0	< 2.0	2.3 J	NT	<2.0	<2.0	<2.0
Naphthalene			NT	< 250	< 1200	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 200	< 5.0	< 5.0	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0
Tert-amyl methyl ether			NT	< 100	NT	NT	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	NT	NT	1.9 J	NT	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 4.0	NT	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	< 250	< 250	< 100	1.9 J	4.4 J	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	40.4	< 250	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 25	< 100	< 5.0	< 5.0	< 5.0 F+	< 10	NT	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			15500	11500	16000	16200	22100	51900	6550	400	427	606	176	141	280	391	< 1.0	49700	19500	7240	21000	16200	28300	31700 F+	48900	2000	7170	1730	7190	2880 F+	726	3320	365	459	439
Tetrahydrofuran			NT	< 50	NT	NT	< 10	< 10	< 250	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	NT	< 10	NT	< 10	< 10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 20	NT	<10	<10	<10
Toluene			NT	< 50	< 380	< 100	0.62 J	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	1.8	< 380	0.61 J	0.47 J	< 1.0	0.36 J	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			1710	988	< 250	< 100	39.1	68.7	11.1 J	< 1.0	0.43 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1150	2070	7610	< 250	34.5	69.7 J+	31.4	27.9 J+	660	1550	158	1330	360	44.1	539	6.8	7.9	14.8
1,1,2-Trichloroethane			0.66 J	< 50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	172	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			979	618	< 250	< 100	86.6	247	13.8 J	1.9	3.5	4.2	1.3	1.3	2.7	3.6	< 1.0	906	1440	7580	< 5.0	141	317	141	159	190	572	92.8	486	171	26.5	354	13.2	14.8	16.7
Vinyl chloride			< 1.0	< 50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.55 J	< 5.0	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			NT	< 50	< 250	< 200	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 400	< 200	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 200	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
o-Xylene			NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Total Xylene			NT	< 50	ND	ND	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Arsenic																																			NT
Iron																																			NT
Manganese																																			<15
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l															NT																		0.21
Ethane	8015	µg/l															NT																		<0.23
Ethylene	8015	µg/l															NT																		<0.31
Alkalinity	E310.1	µg/l															NT																		143000
Chloride	E325.3	µg/l															275000																		38600
Chlorine, Total Residual	E330.4	µg/l															< 50																		<100
Iron, Ferrous	3500FE B	µg/l															NT																		<200
Nitrate & Nitrite as N	E353.2	µg/l															NT																		2600
Nitrogen, Nitrate	E353.2	µg/l															NT																		2600
Nitrogen, Nitrite	E354.1	µg/l															NT																		<10
Sodium	6010C	µg/l															NT																		NT
Sulfate	E375.4	µg/l															NT																		62900
Sulfide	E376.1	µg/l															NT																		<2000
Surfactants	E425.1	µg/l															NT																		<100
Total Organic Carbon	E415.1	µg/l															NT																		1900

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	SH-MW3													COBBLE-IR-1
		Sample Name:	SH-MW3	SH-MW-3	SH-MW-3	SH-MW3	SHMW3	SHMW3	SHMW3	SHMW3	SH-MW3	SH-MW3	SH-MW3	SH-MW3	SH-MW3	COBBLE-IR-1
		Well Screen Interval (ft bgs):	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	Unknown
		Sample Date:	7/8/02	5/23/06	10/4/06	1/17/07	4/12/07	4/15/08	4/13/10	4/21/11	4/16/12	4/23/13	4/30/14	4/2/15	6/25/07
		Collected By:	SHA	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**														
Volatile Organic Compounds (VOCs)																
Acetone	8260	µg/l	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 500	< 10	< 500	5.8
Benzene			< 250	< 0.50	< 0.50	< 50	< 0.50	< 500	< 0.50	< 50	< 25	< 25	< 0.50	< 25	< 0.50
Bromodichloromethane			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	0.32 J
2-Butanone (MEK)			< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon disulfide			< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon tetrachloride			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chlorobenzene			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chloroethane			< 5.0	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
Chloroform			< 380	0.88 J	0.81 J	< 100	1.1	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	5.6
Chloromethane			< 1200	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dichlorobenzene			< 1200	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethane			< 380	21.6	36.5	< 100	24.5	< 100	19.5	< 100	< 50	< 50	12.6	24.0 J	< 1.0
1,2-Dichloroethane			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethylene			< 250	91.0	84.4	< 100	91.3	< 100	14.2	< 100	< 50	< 50	12.5	<50	< 1.0
cis-1,2-Dichloroethylene			< 250	37.2	102	< 100	39.8	34.5 J	19.8	< 100	< 50	< 50	40.1	27.7 J	< 1.0
trans-1,2-Dichloroethylene			< 380	< 1.0	1.1	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,2-Dichloropropane			< 880	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dioxane			NT	< 25	< 25 R	< 2500	< 25	< 2500	< 25	< 2500	< 1300	< 2600	< 25 K-	<1300	< 25
Ethylbenzene			< 250	< 1.0	< 1.0	180	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
2-Hexanone			NT	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
4-Isopropyltoluene			< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Methyl tert-butyl ether			< 5.0	5.1	8.2 J+	< 100	2.4 J+	< 100	0.83 J	< 100	< 50	< 50 K-	< 1.0	< 50	< 1.0
Methylene chloride			< 2500	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	450	< 100	< 100	< 2.0	< 100	< 2.0
Naphthalene			< 1200	< 5.0	< 5.0	392 J	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,1,1,2-Tetrachloroethane			< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	<50	< 5.0
Tetrachloroethylene (PCE)			26000	16900	28300	29700	34000	15200	20300	16900	7310	9650	14500	12800	< 1.0
Tetrahydrofuran			NT	< 10	< 10	< 1000	< 10	< 1000	< 10	< 1000	< 500	< 500	< 10 G	< 500	< 10
Toluene			< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1,1-Trichloroethane (TCA)			1200	989	1680	806	621 E J+	119	19.8 J	< 100	83.0	< 50	48.0	49.9 J	< 1.0
1,1,2-Trichloroethane			< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Trichloroethylene (TCE)			870	482	1030	709	1030	306	383.0	342	152	157	231	218	< 1.0
Vinyl chloride			< 5.0	< 1.0	< 1.0	< 100	0.83 J	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
m,p-Xylene			< 250	< 1.0	< 1.0	484	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
o-Xylene			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Total Xylene			ND	< 1.0	< 1.0	543	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic						< 10									
Iron						255									
Manganese						NT									
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron															
Others			NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l				< 10									
Ethane	8015	µg/l				< 10									
Ethylene	8015	µg/l				< 10									
Alkalinity	E310.1	µg/l				208000									
Chloride	E325.3	µg/l				362000									
Chlorine, Total Residual	E330.4	µg/l				NT									
Iron, Ferrous	3500FE B	µg/l				NT									
Nitrate & Nitrite as N	E353.2	µg/l				1900									
Nitrogen, Nitrate	E353.2	µg/l				1900									
Nitrogen, Nitrite	E354.1	µg/l				30									
Sodium	6010C	µg/l				NT									
Sulfate	E375.4	µg/l				62600									
Sulfide	E376.1	µg/l				< 2000									
Surfactants	E425.1	µg/l				< 100									
Total Organic Carbon	E415.1	µg/l				< 1000									

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-3. Chemical Testing Results - GLX Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-114		KE-115		KE-116		KE-117			MW-5R	WashSW[(b)]	KE-202D
		Sample Name:	KE-114	KE-114	KE-115	KE-115	KE-116	KE-116	KE-117	KE-117[(a)]	KE-117	MW-5R	WashSW[(b)]	KE-202D
		Well Screen Interval (ft bgs):	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 20	5 to 20	5 to 20	5 to 30	Vac-Ex	~25 to 35
		Sample Date:	9/27/12	2/6/14	9/27/12	2/6/14	9/27/12	2/6/14	9/27/12	2/6/14	4/9/14	2/6/14	2/6/14	4/8/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**												
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l												
Acetone			< 10	< 10	< 10	< 10	< 10	< 10	56	< 10	< 20	< 10	< 10	< 20
Benzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	3.8	< 1.0	< 1.0	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	73	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	12	< 1.0	< 1.0	4.4	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	8.0	< 1.0	< 1.0	1.8	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	1.8	1.0	< 1.0	< 1.0	< 5.0	410	2.8	< 1.0	26	12
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	7.2	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	1.4	2.4	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	760	4.3	< 1.0	2000	33
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	3.3	< 2.0
Toluene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	11	< 1.0	< 1.0	13	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 5.0	150	1.2	< 1.0	38	5.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	19	< 2.0	< 2.0	< 2.0	< 2.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	37	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 2.0	< 1.0	19	< 2.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.

(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 4-3. Chemical Testing Results - GLX Groundwater Sampling
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**KE-202S**	**KE-204**	**KE-205**	**KE-206**	**KE-207**	**KE-208**	**KE209**	**KE-210**	**GLC-WASH-MW-4**	**GLC-WASH-MW-2**
		Sample Name:	**KE-202S**	**KE-204**	**KE-205**	**KE-206**	**KE-207**	**KE-208**	**KE209**	**KE-210**	**GLC-WASH-MW-4-082520**	**GLC-WASH-MW-2-082520**
		Well Screen Interval (ft bgs):	**5 to 20**	**15 to 25**	**9.5 to 19.5**	**10 to 21**	**8 to 18**	**4 to 14**	**9 to 19**	**8.5 to 18.5**	**15-30**	**15-30**
		Sample Date:	**4/8/14**	**4/14/14**	**4/15/14**	**4/14/14**	**4/15/14**	**4/14/14**	**4/15/14**	**4/15/14**	**8/25/20**	**8/25/20**
		Collected By:	**Kleinfelder**	**Kleinfelder**	**Kleinfelder**	**Kleinfelder**	**Kleinfelder**	**Kleinfelder**	**Kleinfelder**	**Kleinfelder**	**TRC**	**TRC**
Analyte	**Method**	**Units**										
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l										
Acetone			< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NT	NT
Benzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT
1,1-Dichloroethane			< 1.0	3.4	< 1.0	6.0	< 1.0	< 1.0	< 1.0	1000	NT	NT
1,1-Dichloroethylene			< 1.0	2.6	< 1.0	4.6	< 1.0	< 1.0	< 1.0	790	NT	NT
cis-1,2-Dichloroethylene			< 0.40	83	< 1.0	89	< 1.0	1.2	< 1.0	8.4	<1.0	<1.0
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	71	NT	NT
Tetrachloroethylene (PCE)			< 1.0	14000	1.0	12000	2.5	73	< 1.0	14000	11	11
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
1,1,1-Trichloroethane (TCA)			< 1.0	16	< 1.0	35.0	< 1.0	< 1.0	< 1.0	860	NT	NT
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	NT	NT
Trichloroethylene (TCE)			< 1.0	81.0	< 1.0	86.0	< 1.0	2.0	< 1.0	24000	1.6	<1.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3.6	<1.0	<1.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT
o-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.
(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 4-4. Chemical Testing Results - 9 Knowlton Street Sub-Slab Soil Vapor
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	9 Knowlton Street													
		Sample Name:	9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS2		9 KNOW-SS1		9 KNOW-SS2	
		Sample Date:	2/28/07		11/30/09		6/23/22		1/5/23		1/5/23		3/23/23		3/23/23	
		Collected By:	GEI		GEI		GEI		GEI		GEI		GEI		GEI	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m³)**														
Volatile Organic Compounds (VOCs)	TO-15															
Carbon tetrachloride		38	2.3	0.37	2.3	0.37	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		98	199	29.3	206	30.4	9.49	1.4	4.89	0.721	7.32	1.08	6.98	1.03	13.0	1.92
1,1,1-Trichloroethane		210	0.76 J	0.14 J	< 1.1	< 0.20	<1.09	<0.200	<0.154	<0.028	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		28	<1.1	<0.20	<1.1	< 0.20	<1.07	<0.200	<0.152	<0.028	<0.107	<0.020	0.188	0.035	<0.107	<0.020

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= Not Tested
6. Highlighted sample indicates most recent sampling round.

Qualifying Note:
J The reported result is below the laboratory reporting limit and is estimated.

Table 4-5. Chemical Testing Results - 13 Knowlton Street Sub-Slab Soil Vapor
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Location Name:	13 Knowlton Street											
		Sample Name:	13 KNOW-SS1		13KNOW-SS1		13KNOW-SS1		13KNOW-SS1		13KNOW-SS1		13KNOW-SS2	
		Sample Date:	6/4/2007		12/22/2016		3/12/2019		11/22/2019		1/10/2023		1/10/2023	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m³)**												
Volatile Organic Compounds (VOCs)	TO-15													
Carbon Tetrachloride		38	0.82 J	0.13 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethene (PCE)		98	4.5	0.67	1.0 J	0.15 J	1.92	0.283	<1.36	<0.200	0.488	0.072	5.27	0.777

General Notes
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= Not Tested
6. Highlighted sample indicates most recent sampling round.

Qualifying Note:
J The reported result is below the laboratory reporting limit and is estimated.

Table 4-6. Chemical Testing Results - 10 Morton Street Sub-Slab Soil Vapor
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	10 Morton Street																							
		Sample Name:	10Mort- SG1		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4	
		Sample Date:	5/9/2007		3/8/2023		3/8/2023		3/8/2023		3/8/2023		3/31/2023		3/31/2023		3/31/2023		3/31/2023		4/24/2023		4/24/2023		4/24/2023		4/24/2023	
		Collected by:	GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m³)**																										
Volatile Organic Compounds (VOCs)	TO-15																											
cis-1,2-Dirchloroethylene (cis-1,2-DCE)		56	<0.79	<0.20	0.083	0.021	0.115	0.029	<0.079	<0.020	<0.079	<0.020	<0.40	<0.10	<0.40	<0.10	<0.40	<0.10	<0.40	<0.10	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		98	4.0	0.59	1.06	0.156	1.32	0.194	0.183	0.027	0.292	0.043	<0.68	<0.10	<0.68	<0.10	<0.68	<0.10	<0.68	<0.10	0.353	0.052	0.407	0.060	1.22	0.180	0.285	0.042
1,1,1-Trichloroethane		210	1.2	0.22	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.55	<0.10	<0.55	<0.10	<0.55	<0.10	<0.55	<0.10	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		28	<1.1	<0.20	<0.107	<0.020	0.258	0.048	<0.107	<0.020	<0.107	<0.020	<0.54	<0.10	<0.54	<0.10	<0.54	<0.10	<0.54	<0.10	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. Highlighted sample indicates most recent sampling round.

Table 4-7. Chemical Testing Results - 103 Washington Street Sub-Slab Soil Vapor
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

				Location Name:	103 Washington Street		
				Sample Name:	103Wash-SV1		103Wash-SV2
				Sample Date:	5/10/2023		5/10/2023
				Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**	**Commercial Sub-Slab Soil Gas Screening Values (µg/m^3)**				
Volatile Organic Compounds (VOCs)	TO-15						
cis-1,2-Dichloroethylene		56	370		1.95	0.493	9.48	2.39
trans-1,2-Dichloroethylene		56	3700		1.17	0.295	6.66	1.68
Tetrachloroethylene (PCE)		98	290		28.5	4.21	189	27.9
1,1,1-Trichloroethane		210	310,000		<0.109	<0.020	0.175	0.032
Trichloroethylene (TCE)		28	120		9.46	1.76	98.3	18.3

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Table 4-8. Chemical Testing Results - 105 Washington Street Sub-Slab Soil Vapor
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

				Location Name:	105 Washington Street									
				Sample Name:	105Wash-SV1		105Wash-SV2		105Wash-SV2		105Wash-SV2		105Wash-SV2	
				Sample Date:	8/4/2021		8/4/2021		3/15/2022		2/15/2023		5/10/2023	
				Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m³)**	**Commercial Sub-Slab Soil Gas Screening Values (µg/m³)**											
Volatile Organic Compounds (VOCs)	TO-15													
Tetrachloroethylene (PCE)		98	290		132	19.5	110	16.2	4.69	0.691	0.658	0.097	1.86	0.274
Trichloroethylene (TCE)		28	120		8.44	1.57	8.97	1.67	<1.07	<0.200	<0.107	<0.020	0.215	0.04

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Results highlighted are the most recent samples collected.

Table 4-9. Chemical Testing Results - 9 Knowlton Street Indoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	9 Knowlton Street															
		Sample Name:	045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B	
		Sample Date:	5/21/2007		5/21/2007		6/8/2022		6/8/2022		1/5/2023		1/5/2023		3/23/2023		3/23/2023	
		Collected by:	GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**																
Volatile Organic Compounds (VOCs)	TO-15																	
cis-1,2-Dichloroethylene		0.8	< 0.79	< 0.20	1.5	0.39	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		1.4	94.3 G	13.9 G	366 G	54.0 G	0.319	0.047	4.46	0.657	1.89	0.278	3.00	0.442	1.57	0.231	1.93	0.285
1,1,1-Trichloroethane		3	1.3	0.23	4.4	0.81	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		0.4	1.3	0.24	3.9	0.72	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= Not Tested
6. Highlighted sample indicates most recent sampling round.

Qualifying Note:

G The result is estimated due to duplicate precision outside control limits.

J The reported result is below the laboratory reporting limit and is estimated.

Table 4-10. Chemical Testing Results - 13 Knowlton Street Indoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	13 Knowlton Street Pre-EPMM						13 Knowlton Street Post-EPMM																							
		Sample Name:	13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B	
		Sample Date:	8/28/07		8/28/07		11/7/07		3/3/10		3/3/10		2/1/11		2/1/11		12/21/16		12/21/16		2/13/18		2/13/18		3/12/19		3/12/19		11/22/19		11/22/19		1/10/23		1/10/23	
		Collected By:	GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m³)**																																
Volatile Organic Compounds (VOCs)	TO-15																																	
Carbon tetrachloride		0.54	0.69 J	0.11 J	0.60 J	0.096 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.081	<0.020	<0.081	NT	NT	NT	NT	NT	0.134	0.033	<0.081	<0.020	NT	NT	NT	NT
1,2-Dichloroethane		0.09	3.1	0.77	< 0.81	< 0.20	1.1	0.27	3.6	0.89	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	6.0	0.89	4.5	0.67	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.32	0.047	3.8	0.56	0.156	0.023	1.71	0.252	0.210	0.031	4.70	0.693	0.353	0.052	3.06	0.451	0.427	0.063	1.29	0.190

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. The samples collected after November 2007 were collected over a 24-hour period ending on the date shown.
6. NT= Not Tested
7. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 4-11. Chemical Testing Results - 103 Washington Street Indoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	First Floor	
				Sample Name:	103Wash-F1	
				Sample Date:	5/10/23	
				Units:	µg/m3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**	**MassDEP Commerical Indoor Air Threshold Values (µg/m^3)**			
Volatile Organic Compounds (VOCs)	TO-15					
trans-1,2-Dichloroethylene		0.8	53		0.194	0.049
Tetrachloroethylene (PCE)		1.4	4.1		0.278	0.041

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Table 4-12. Chemical Testing Results - 105 Washington Street Indoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	Basement										First Floor					
				Sample Name:	105WASH-B1		105WASH-B2		105WASH-B1		105WASH-B1		105WASH-B2		105WASH-FF1		105WASH-FF1		105WASH-FF1	
				Sample Date:	3/15/22		3/15/22		2/15/23		5/10/23		5/10/23		3/15/22		2/15/23		5/10/23	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**	**MassDEP Commerical Indoor Air Threshold Values (µg/m^3)**																	
Volatile Organic Compounds (VOCs)	TO-15																			
1,1-Dichloroethane		0.8	710		0.247	0.061	0.113	0.028	<0.081	<0.020	0.174	0.043	0.101	0.025	0.267	0.066	0.138	0.034	0.121	0.03
Tetrachloroethylene (PCE)		1.4	4.1		1.15	0.169	0.57	0.084	0.549	0.081	0.841	0.124	0.536	0.079	1.05	0.155	1.38	0.203	0.373	0.055
Trichloroethylene (TCE)		0.4	1.8		0.247	0.027	<0.107	<0.020	<0.107	<0.020	0.129	0.024	<0.107	<0.020	0.14	0.026	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Results highlighted are the most recent samples collected.

Table 4-13. Summary of Meteorological Data During Air Sampling Events
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location	Sample Date	Sample Location	Outside Temperature (ºF)[1,3]		Outside Barometric Pressure (in. Hg)[2,4]		Prevailing Wind Direction		General Weather Conditions		Significant precipitation within 12 hours prior to Sampling?
			Start	End	Start	End	Start	End	Start	End	
Residences											
9 Knowlton Street	1/4/2023-1/5/2023	9Knowl-B	44	40	29.92	29.99	East	East	Light Rain	Overcast	No
		9Knowl-1									
		9Knowl-SS1	40		29.99		East		Overcast		No
		9Knowl-SS2									
13 Knowlton Street	1/9/2023-1/10/2023	13Knowl-B	42	41	29.84	29.94	Northwest	West	Cloudy	Cloudy	No
		13Knowl-1									
		13Know-SV1	41		29.94		West		Overcast		No
		13Knowl-SV1									
105 Washington Street	2/14/2023-2/15/2023	105Wash-FF1	46	44	29.89	30.13	Northwest	South	Partly Cloudy	Cloudy	No
		105Wash-B1									
		105Wash-SV2	44		30.1		South		Cloudy		No
10 Morton Street	3/8/2022	10Mort-SV1	42		30.0		Northwest		Cloudy		No
		10Mort-SV2									
		10Mort-SV3									
		10Mort-SV4									
9 Knowlton Street	3/21/2023-3/22/2023	9Knowl-B	57	50	30.26	30.32	East	West	Sunny	Sunny	No
		9Knowl-1									
		9Knowl-SS1	50		30.32		West		Sunny		No
		9Knowl-SS2									
10 Morton Street	3/31/2023	10Mort-SV1	40		30.4		West		Partly Cloudy		No
		10Mort-SV2									
		10Mort-SV3									
		10Mort-SV4									
10 Morton Street	4/24/2023	10Mort-SV1	54		30.0		Northeast		Clear		No
		10Mort-SV2									
		10Mort-SV3									
		10Mort-SV4									
103 Washington Street	5/9/2023-5/10/2023	103Wash-FF1	55	62	29.98	30.11	Northeast	West	Cloudy	Sunny	No
		103Wash-SV1	62		30.1		West		Sunny		
		103Wash-SV2									
105 Washington Street	5/9/2023-5/10/2023	105Wash-FF1	55	62	29.98	30.11	Northeast	West	Cloudy	Sunny	No
		105Wash-B1									
		105Wash-B2									
		105Wash-SV2	62		30.1		West		Sunny		

General Notes:
1. ºF = degrees Fahrenheit.
2. in. Hg = inches of mercury.
3. Temperatures were measured in the field using a hand-held thermometer.
4. Barometric pressures were measured in the field with a digital barometer.
5. NM = Not Measured.
6. NA = Not Applicable.

Table 4-14. Chemical Testing Results - 103 Washington Street Sump Water
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

			Location Name: 103 Washington Street Sample Name: 103Wash-Sump Sample Date: 8/4/2021
Analyte	**Method**	**Units**	
Volatile Organic Compounds (VOCs)	8260	ug/L	
cis-1,2-Dichloroethylene			1.4
Tetrachloroethylene (PCE)			<1.0
Trichloroethylene (TCE)			1.5
Total VOCs			2.9

General Notes

1. µg/l = micrograms per liter.
2. "< " = The analyte was not detected at a concentration above the specified reporting limit.
3. ND= Not Detected

Table 5-1. Summary of SSDS Monitoring Events - Capuano Center
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
1/19/2023	1	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No
4/21/2023	2	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) isobutylene.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Cafetorium		Room 101				Room 108				Room 121		Room 122						Room 125				Room 126					
	Sample ID:	150 GLEN-CAF		150 GLEN-ROOM 101A		150 GLEN-ROOM 101B		150 GLEN-ROOM 108A		150 GLEN-ROOM 108B		150 GLEN-ROOM 121		150 GLEN-ROOM 122		150 GLEN-RM 122		150 GLEN-RM 122		150 GLEN-ROOM 125A		150 GLEN-ROOM 125B		150 GLEN-ROOM 126		150 GLEN-ROOM 100 (FD-Room 126)		150 GLEN-RM 126	
	Sample Date:	1/6/07		12/27/06		12/28/06		12/27/06		12/28/06		1/6/07		1/6/07		2/7/07		5/23/15		12/27/06		12/28/06		1/13/07		1/13/07		2/7/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.49 J J+	0.078 J J+	< 1.3	< 0.20	< 1.3	< 0.20	0.94 J	0.15 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+	0.51 J	0.081 J J+	0.69 J	0.11 J	NT	NT	1.0 J	0.16 J	< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.94 J	0.15 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		0.88 J J+	0.13 J J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.88 J	0.13 J	0.75 J	0.11 J	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 126 (continued)																									
	Sample ID:	150GLEN-ROOM 126		150 GLEN-ROOM 126		150 GLEN-RM 126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126	
	Sample Date:	3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/172008		4/21/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.60 J	0.095 J	0.69 J	0.11 J	0.82 J	0.13 J	< 1.3	< 0.20	0.69 J	0.11 J	0.59 J	0.093 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 126 (continued)																		Room 134						Room 136		Room 137			
	Sample ID:	150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150 GLEN-ROOM 134		150 GLEN-RM 134		150 GLEN-RM 134		150 GLEN-ROOM 136		150 GLEN-ROOM 137A		150 GLEN-ROOM 137B	
	Sample Date:	8/18/08		11/24/08		3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		2/7/07		5/23/15		1/13/07		1/6/07		1/6/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.60 J	0.096 J	0.60 J	0.096 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.75 J	0.12 J	0.94 J	0.15 J	NT	NT	0.69 J	0.11 J	0.52 J J+	0.082 J J+	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	3.2	0.47	< 1.4	< 0.20	< 1.4	< 0.20	2.1	0.31	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	0.54 J	0.10 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 138																									
	Sample ID:	RM138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138 (Alpha duplicate)		150 GLEN-RM 138		150 GLEN-RM 139 (FD-Room 138)		150GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-RM 138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	1/2/07		1/6/07		1/13/07		1/26/07		1/26/07		2/7/07		2/7/07		3/8/07		3/8/07		4/20/07		4/20/07		5/17/07		5/17/07		7/30/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	0.49 J J+	0.078 J J+	0.82 J	0.13 J	0.82 J	0.13 J	< 0.126	< 0.020	0.75 J	0.12 J	0.52 J	0.082 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.61 J	0.097 J
Dichloroethane,1,1-		0.45 J	0.11 J	0.77 J J+	0.19 J J+	0.57 J	0.14 J	0.65 J	0.16 J	< 0.081	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.079	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	2.1 J+	0.54 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	0.83 J+	0.21 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.0819	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+
Tetrachloroethylene (PCE)		14	2.0	60 J+	8.8 J+	20	3.0	20	3.0	32.6	4.8	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.17 J
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		2.3	0.42	7 J+	1.3 J+	3.1	0.57	3.3	0.61	4.26	0.794	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:		Room 138 (continued)																									
Sample ID:		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
Sample Date:		7/30/07		9/10/07		9/10/07		10/8/07		10/8/07		10/8/07		10/8/07		10/14/07		10/14/07		10/14/07		10/14/07		11/15/07		11/15/07		12/13/07	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.88 J	0.14 J	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.094 J	0.62 J	0.099 J	0.69 J	0.11 J	0.69 J	0.11 J	0.57 J	0.091 J
Dichloroethane,1,1-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		1.1 J	0.16 J	< 1.4 J+	< 0.20 J+	6.5	0.96	< 1.4	< 0.20	1.5	0.22	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 138 (continued)																									
	Sample ID:	150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	12/13/07		1/21/08		1/21/08		2/19/08		2/19/08		2/22/08		2/22/08		3/17/08		3/17/08		4/21/08		4/21/08		8/18/08		8/18/08		11/24/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	0.69 J	0.11 J	0.69 J	0.11 J	0.63 J	0.10 J	0.62 J	0.098 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.8	0.27	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

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Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 138 (continued)																									
	Sample ID:	150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	11/24/08		3/2/09		3/2/09		8/27/09		8/27/09		11/11/09		11/11/09		2/19/10		2/19/10		11/11/10		11/11/10		3/17/11		3/17/11		5/23/15	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.53	< 0.13	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.52	< 0.13	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.37	< 0.094	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 0.82	< 0.12	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 0.95	< 0.14	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 0.76	< 0.14	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 0.70	< 0.13	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 141																									
	Sample ID:	150 GLEN-ROOM 141		150GLEN-ROOM 141		150 GLEN-ROOM 141		150 GLEN-RM 141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141	
	Sample Date:	1/6/07		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		0.45 J J+	0.071 J J+	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3 J+	< 0.20 J+	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 141 (continued)																Room 142											
	Sample ID:	150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		RM142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-ROOM 142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-RM142	
	Sample Date:	4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		2/19/10		11/11/10		3/17/11		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07		5/17/07		7/30/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.69 J	0.11 J	0.60 J	0.096 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	< 1.3	< 0.20	0.52 J J+	0.083 J J+	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	1.4	0.35	1.2 J+	0.29 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	1.0	0.25
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	0.87	0.22	2.5 J+	0.63 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	28	4.1	45 J+	6.6 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	0.33 J J+	0.061 J J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	0.62 J	0.092 J	0.62 J	0.092 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	3.7	0.69	5.4 J+	1 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:		Room 142 (cont)																											
Sample ID:		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142	
Sample Date:		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		11/11/09	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:		Room 142 (continued)								Room 144				Room 145		Room 146													
Sample ID:		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150 GLEN-ROOM 144		150 GLEN-ROOM 144 (Alpha duplicate)		150 GLEN-ROOM 145		150 GLEN-ROOM 146A		150 GLEN-ROOM 146B		150 GLEN-ROOM 146B (FD-Room 146)		RM146		150 GLEN-ROOM 146		150 GLEN-RM 146		150GLEN-ROOM 146		150 GLEN-ROOM 146	
Sample Date:		2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		1/13/07		1/6/07		12/27/06		12/28/06		12/28/06		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.88 J	0.14 J	< 3.14	< 0.50	0.45 J J+	0.071 J J+	1.1 J	0.18 J	< 1.3	< 0.20	0.49 J	0.078 J	0.63 J	0.10 J	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 2.02	< 0.50	< 0.81	< 0.20	10	2.5	3.6	0.88	3.3	0.82	0.53 J	0.13 J	0.57 J J+	0.14 J J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 1.98	< 0.50	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 1.98	< 0.50	< 0.79	< 0.20	7.9	2.0	4.0	1.0	3.9	0.99	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 2.02	< 0.50	< 0.79	< 0.20	3.3	0.83	1.3	0.33	1.2	0.31	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 2.0	< 0.50	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	4.1	0.61	4.36	0.643	< 1.4	< 0.20	186	27.5	83.4	12.3	85.4	12.6	11	1.6	26 J+	3.8 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 2.72	< 0.50	< 1.1	< 0.20	2.1	0.38	0.82 J	0.15 J	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	1.3	0.24	< 2.68	< 0.50	< 1.1	< 0.20	37	6.8	10	1.9	11	2.1	1.7	0.32	3.0 J+	0.56 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Sample Location:		Room 146 (continued)																									
Sample ID:		150 GLEN-RM 146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146	
Sample Date:		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	0.62 J	0.099 J	0.82 J	0.13 J	< 1.3	< 0.20	0.58 J	0.092 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.62 J	0.098 J	< 1.3	< 0.20	0.75 J	0.12 J	0.60 J	0.096 J	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	0.49 J	0.12 J	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4 +	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Room 146 (continued)														Outside of School by Room 126 Window						Outside of School by Day Care Window					
	Sample ID:	150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150 GLEN-0-1A		150 GLEN-0-1B		150 GLEN-0-1A		150 GLEN-0-2A		150 GLEN-0-2B		150 GLEN-0-2A	
	Sample Date:	3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		12/27/06		12/28/06		1/6/07		12/27/06		12/28/06		1/6/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	0.52 J J+	0.083 J J+	1.1 J	0.17 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	0.93 J	0.17 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Downwind on Roof																					
	Sample ID:	150 GLEN-ROOF B		150 GLEN-ROOF B		150GLEN-ROOF		150 GLEN-ROOF		150 GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
	Sample Date:	2/8/07		2/8/07		3/8/07		4/20/07		5/17/07		8/9/07		9/10/07		10/14/07		11/14/07		12/17/07		1/21/08		2/19/08	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**																								
Volatile Organic Compounds (VOCs)	TO-15																								
Carbon tetrachloride		< 1.3	< 1.3	< 0.20	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.2	< 1.2	< 0.21	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)		< 1.1	< 1.1	< 0.20	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Downwind on Roof (cont)											
	Sample ID:	150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
	Sample Date:	3/17/08		4/21/08		8/18/08		11/24/08		8/27/09		11/11/09	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride		< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 6-1. Exposure Pathway Mitigation Measure (EPMM) Status
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Property Address	EPMM Design Option	Date Completed or Last Modified	Date of Last Indoor Air Monitoring	Construction Details												
				Ventilation Fan(s) (Model No.) [a]	Number of Sub-Slab Vapor Extraction Points (SSDS)	Sub-slab Vapor Barrier - HDPE Liner	Sub-Slab Ventilation System - Geocomposite	Sub-Slab Vapor Trench	Foundation Wall Ventilation System - Geocomposite	New Basement Slab Installed	Crawlspace Vapor Barrier	Epoxy Vapor Barrier - Floor	Epoxy Vapor Barrier - Foundation Walls	Telemetry Installed (if necessary)	Reason Telemetry not Installed (if applicable)	AUL Recorded (Yes/No)
91-93 Franklin Street	3	March, 2009	3/1/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
95 Franklin Street	2/1 [b]	May, 2011	5/16/2013	GP-501	-	-	-	Yes	-	-	Yes	Yes	Yes	Yes	-	No
95R Franklin Street	2	December, 2007	3/8/2010	-	-	-	-	Yes	Yes	-	Yes	Yes	Yes	-	-	Yes
150 Glen Street	1	April, 2015	5/23/2015	GP-501 (3)	18	-	-	-	-	-	-	-	-	Yes	-	No
163 Glen Street	2 [c]	July, 2018	8/18/2020	-	-	Yes	-	Yes	-	Yes	-	-	-	-	-	No
166-168 Glen Street	3	November, 2010	3/1/2012	-	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-	-	Yes
9 Knowlton Street	1	January, 2010	3/23/2023	GP-501	5	-	-	-	-	-	-	-	-	No	Refused access	Yes
13 Knowlton Street	1	January, 2010	1/10/2023	GP-501	4	-	-	-	-	-	-	-	-	Yes	-	Yes
17 Knowlton Street	3	March, 2009	3/7/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
31-33 Knowlton Street	1	February, 2008	3/19/2010	HS-5000	7	-	-	-	-	-	-	-	-	Yes	-	No
32 Knowlton Street	3	May, 2009	3/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	Yes
34 Knowlton Street	3	June, 2014	4/27/2015	-	-	Yes	-	-	-	Yes	-	-	-	-	-	Yes
35-37 Knowlton Street	3/1 [b]	April, 2010	3/11/2011	GP-501	-	Yes	Yes	-	-	Yes	-	Yes	Yes	Yes	-	No
4 Morton Street	3	November, 2008	3/20/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	No
10 Morton Street	3	March, 2009	3/5/2011	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
11 Morton Street	2	November, 2008	5/26/2021	-	-	-	-	Yes	Yes	-	-	Yes	Yes	-	-	Yes
12 Morton Street	3	March, 2008	11/19/2010	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
13 Morton Street	1	October, 2008	9/17/2014	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
18 Morton Street	1	July, 2007	2/24/2011	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
19-19A Morton Street	3	August, 2009	3/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	Yes
23 Tufts Street	1	May, 2007	2/25/2010	GP-501	1	-	-	-	-	-	-	-	-	Yes	-	No
27 Tufts Street	3/1 [b]	May, 2011	5/23/2013	GP-501	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	-	No
50 Tufts Street	1	August, 2007	3/11/2015	Regenerative Blower	22	-	-	-	-	-	-	Yes	-	Yes	-	No
60 Tufts Street	1	April, 2009	4/25/2019	Regenerative Blower	14	-	-	-	-	-	-	-	-	Yes	-	No

General Notes:
1. NS = Not sampled.
2. - = Not Applicable.

Footnotes:
(a) Ventilation fans manufactured by Radon Away.
(b) An Option 2 or 3 EPMM was initially installed at these properties; however, a fan was added to the EPMM to improve performance. Therefore, these EPMMs consist of Option 1 with Option 2 or 3 EPMM elements.
(c) EPMM demonstrated to be no longer required based on testing requirements in the MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435 (Section 3.7 and Tables 3-1 and 3-2).

Table 6-2. Indoor Air Sampling and EPMM Monitoring - December 16, 2022 through June 15, 2023
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
Residential and Commercial Properties
Somerville, Massachusetts

Property	Property Type	Indoor Air Sampling[1]	EPMM Inspection3
91-93 Franklin Street	Residential	Not Sampled	02/24/23
95 Franklin Street	Residential	Not Sampled	08/18/22
95R Franklin Street	Residential	Not Sampled	NA
166-168 Glen Street	Residential	Not Sampled	08/18/22
9 Knowlton Street	Residential	1/5/2023 3/23/2023	01/05/23
13 Knowlton Street	Residential	01/10/23	11/30/22
17 Knowlton Street	Residential	Not Sampled	NA
32 Knowlton Street	Residential	Not Sampled	08/17/22
34 Knowlton Street	Residential	Not Sampled	02/16/23
31-33 Knowlton Street	Residential	Not Sampled	8/18/2022
35-37 Knowlton Street	Residential	Not Sampled	NA
4 Morton Street	Residential	Not Sampled	NA
10 Morton Street	Residential	Not Sampled	3/8/2023
11 Morton Street	Residential	Not Sampled	NA
12 Morton Street	Residential	Not Sampled	NA
13 Morton Street	Residential	Not Sampled	2/24/2023
18 Morton Street	Residential	Not Sampled	11/30/2022
19-19A Morton Street	Residential	Not Sampled	NA
23 Tufts Street	Residential	Not Sampled	2/21/2023
27 Tufts Street	Residential	Not Sampled	2/21/2023

General Notes:
1. EPMM = Exposure Pathway Mitigation Measure.
2. See Appendix E for Air Sampling Checklists and Appendix G for EPMM forms.
3. See Section 6 for a description of EPMM Inspection activities. 60 Tufts Street EPMM is inspected quarterly; see Section 7.
4. NA = No inspection was performed during this reporting period.
5 SSDS = Sub-slab depressurization system.

Table 7-1. Summary of SSDS Monitoring Events - 60 Tufts Street
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
1/19/2023	1	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No
4/21/2023	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 ppm isobutylene gas.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 8-1. Summary of SSDS Monitoring Events - 50 Tufts Street
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
12/19/2022	1	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
1/19/2023	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate.	No
2/6/2023	3	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
3/15/2023	4	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
4/21/2023	5	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate.	No
5/11/2023	6	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
6/13/2023	7	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VFD = Variable Flow Drive.
5. SVT/SVE = Soil Vapor Temporary Point/Soil Vapor Extraction.
6. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) with 10.6V lamp.
7. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	5/15/2006		5/16/2006		5/23/2006		5/31/2006		7/24/2006		8/1/2006		8/3/2006	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	9.69	16.21	9.53	16.37	10.9	15	11.39	14.51	--	--	--	--	--	--
MW-2	unknown	25.38	8.99	16.39	10.36	15.02	Dry	Dry	Dry	Dry	--	--	--	--	--	--
MW-3	unknown	25.31	8.88	16.43	9.32	15.99	11.16	14.15	12.71	12.6	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	10.56	16.19	11.53	15.22	12.1	14.65	12.33	14.42	12.51	14.24	13.47	13.28
MW-102	6-16	18.89	--	--	6.62	12.27	6.86	12.03	7.44	11.45	7.93	10.96	8.16	10.73	9.11	9.78
MW-103	6-16	19.47	--	--	9.5	9.97	10.37	9.1	10.74	8.73	11.15	8.32	11.31	8.16	12.24	7.23
MW-104	5-15	17.67	--	--	--	--	7.93	9.74	8.89	8.78	9.06	8.61	9.39	8.28	10.29	7.38
MW-105	19-29	38.84	--	--	19.49	19.35	20.21	18.63	20.7	18.14	21.18	17.66	21.43	17.41	22.41	16.43
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	9.69	16.19	9.9	15.98	10.92	14.96	11.36	14.52	--	--	--	--	--	--
GEO-2	5 - 20	26.54	9.76	16.78	--	--	11.38	15.16	11.91	14.63	--	--	--	--	--	--
GEO-3	5 - 20	25.64	10.43	15.21	9.59	16.05	9.87	15.77	10.67	14.97	11.67	13.97	11.85	13.79	12.84	12.8
GEO-4	4 - 19	21.69	--	--	7.79	13.9	9.85	11.84	10.78	10.91	11.25	10.44	11.45	10.24	12.43	9.26
GEO-5	5 - 20	20.14	--	--	6.78	13.36	9.08	11.06	9.96	10.18	10.29	9.85	10.56	9.58	11.51	8.63
GEO-6	5 - 20	17.62	--	--	5.66	11.96	7.39	10.23	8.23	9.39	8.43	9.19	8.73	8.89	9.64	7.98
SH-1	9 - 14	29.55	10.15	19.4	11.4	18.15	Dry	Dry	Dry	Dry	--	--	--	--	--	--
SH-2	7 - 14	29.64	5.71	23.93	7.86	21.78	12.07	17.57	12.22	17.42	--	--	--	--	--	--
SH-3	8 - 13	29.66	7.54	22.12	8.56	21.1	12.73	16.93	12.96	16.7	--	--	--	--	--	--
SH-4	11 - 16	29.63	13.53	16.1	13.48	16.15	14.48	15.15	15.02	14.61	--	--	--	--	--	--
SH-5	8 - 13	29.63	Dry	Dry	--	--	12.99	16.64	13.03	16.6	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	6.72	17.3	--	--	11.44	12.58	12.18	11.84	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	9.33	14.94	--	--	12.05	12.22	12.69	11.58	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	7.8	14.51	--	--	10.26	12.05	11.03	11.28	--	--	--	--	--	--
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	8/16/2006		9/29/2006		10/4/2006		11/14/2006		12/12/2006		1/16/2007		2/12/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.9	14	--	--	11.88	14.02	--	--	--	--	11.6	14.3	--	--
MW-2	unknown	25.38	Dry	Dry	--	--	--	--	--	--	--	--	Destroyed	Destroyed	--	--
MW-3	unknown	25.31	13.73	11.58	--	--	13.75	11.56	--	--	--	--	13.05	12.26	--	--
MW-101	9-19	26.75	12.78	13.97	12.85	13.9	12.76	13.99	12.25	14.5	12.57	14.18	12.4	14.35	12.81	13.94
MW-102	6-16	18.89	8.51	10.38	8.68	10.21	8.52	10.37	7.64	11.25	8.01	10.88	7.72	11.17	8.52	10.37
MW-103	6-16	19.47	11.72	7.75	11.98	7.49	11.92	7.55	11	8.47	11.21	8.26	10.88	8.59	11.74	7.73
MW-104	5-15	17.67	9.87	7.8	9.95	7.72	9.92	7.75	--	--	--	--	8.73	8.94	--	--
MW-105	19-29	38.84	21.91	16.93	22.27	16.57	22.18	16.66	21.16	17.68	21.76	17.08	21.46	17.38	22.03	16.81
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	12.27	14.06
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	4.54	10.09
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	4.93	7.81
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	12.07	12.05
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	5.99	9.59
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	11.38	7.57
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	Dry	Dry
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	11.82	14.06	--	--	11.85	14.03	--	--	--	--	11.55	14.33	--	--
GEO-2	5 - 20	26.54	12.51	14.03	--	--	12.51	14.03	--	--	--	--	12.2	14.34	--	--
GEO-3	5 - 20	25.64	12.25	13.39	12.37	2.84	12.35	13.29	11.63	14.01	11.72	13.92	11.58	14.06	12.21	13.43
GEO-4	4 - 19	21.69	11.9	9.79	12.09	9.6	12.04	9.65	10.58	11.11	11.31	10.38	10.77	10.92	11.83	9.86
GEO-5	5 - 20	20.14	10.99	9.15	11.21	8.93	11.15	8.99	9.47	10.67	10.48	9.66	9.73	10.41	11.02	9.12
GEO-6	5 - 20	17.62	9.25	8.37	9.41	8.21	9.26	8.36	7.65	9.97	8.82	8.8	8.11	9.51	9.3	8.32
SH-1	9 - 14	29.55	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-2	7 - 14	29.64	11.98	17.66	--	--	12	17.64	--	--	--	--	Dry	Dry	--	--
SH-3	8 - 13	29.66	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-4	11 - 16	29.63	15.09	14.54	--	--	15.1	14.53	--	--	--	--	Dry	Dry	--	--
SH-5	8 - 13	29.63	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-MW1	10 - 30	24.02	13.09	10.93	--	--	13.17	10.85	--	--	--	--	12.21	11.81	--	--
SH-MW2	10 - 25	24.27	13.38	10.89	--	--	13.41	10.86	--	--	--	--	12.73	11.54	--	--
SH-MW3	10 - 24	22.31	13	9.31	--	--	12.04	10.27	--	--	--	--	11.04	11.27	--	--
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	3/14/2007		4/12/2007		5/29/2007		6/26/2007		7/16/2007		8/22/2007		9/27/2007		10/23/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	11.39	14.51	11.41	14.49	11.8	14.1	12.04	13.86	--	--	12.26	13.64	12.07	13.83
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	12.57	12.74	14.89	10.42	13.6	11.71	13.94	11.37	--	--	14.34	10.97	13.94	11.37
MW-101	9-19	26.75	12.34	14.41	12.11	14.64	12.17	14.58	12.62	14.13	12.85	13.9	13.03	13.72	13.17	13.58	12.91	13.84
MW-102	6-16	18.89	--	--	7.46	11.43	6.72	12.17	8.36	10.53	8.74	10.15	9.08	9.81	9.35	9.54	8.97	9.92
MW-103	6-16	19.47	11	8.47	10.66	8.81	10.81	8.66	11.47	8.0	11.92	7.55	12.3	7.17	12.63	6.84	--	--
MW-104	5-15	17.67	--	--	8.75	8.92	--	--	9.62	8.05	10.09	7.58	10.36	7.31	10.61	7.06	10.31	7.36
MW-105	19-29	38.84	21.56	17.28	20.88	17.96	20.86	17.98	21.55	17.29	22.13	16.71	22.79	16.05	23.18	15.66	22.96	15.88
MW-106	9 - 19	26.33	12.91	13.42	11.65	14.68	11.69	14.64	12.07	14.26	12.33	14	12.48	13.85	12.61	13.72	12.39	13.94
MW-107	2 - 12	14.63	4.5	10.13	4.49	10.14	4.46	10.17	4.48	10.15	4.52	10.11	4.75	9.88	4.51	10.12	4.47	10.16
MW-108	2 - 12	12.74	4.02	8.72	9.91	2.83	4.25	8.49	5.06	7.68	6.59	6.15	6.25	6.49	6.28	6.46	5.86	6.88
MW-109	3 - 13	24.12	11.27	12.85	10.27	13.85	10.73	13.39	11.76	12.36	12.24	11.88	Dry	Dry	Dry	Dry	Dry	Dry
MW-110	3 - 13	15.58	1.46	14.12	1.04	14.54	2.56	13.02	6.57	9.01	7.17	8.41	7.86	7.72	8.37	7.21	6.92	8.66
MW-111	4 - 14	18.95	10.62	8.33	10.65	8.3	10.68	8.27	11.11	7.84	11.54	7.41	11.96	6.99	12.34	6.61	11.99	6.96
MW-112	3 - 10	18.16	8.01	10.15	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
MW-112a	4-19	17.78	12.76	5.02	12.76	5.02	12.67	5.11	12.81	4.97	12.88	4.9	--	--	12.95	4.83	12.8	4.98
MW-113	10-20	26.16	11.66	14.5	11.44	14.72	11.51	14.65	11.99	14.17	12.22	13.94	12.43	13.73	12.58	13.58	12.3	13.86
MW-114	7-17	29.43	12.67	16.76	11.27	18.16	11.53	17.9	12.88	16.55	15.57	13.86	14.24	15.19	14.84	14.59	14.66	14.77
MW-115	10-25	27.15	17.19	9.96	16.21	10.94	16.63	10.52	17.42	9.73	17.97	9.18	18.38	8.77	18.81	8.34	18.37	8.78
MW-116	5-15	13.45	8.78	4.67	8.34	5.11	8.65	4.8	8.76	4.69	--	--	8.85	4.6	8.91	4.54	8.83	4.62
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	15.27	6.67	15.7	6.24	16.03	5.91	16.2	5.74
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	15.95	5.92	16.38	5.49	16.81	5.06	16.91	4.96
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	15.87	5.91	16.26	5.52	16.69	5.09	16.77	5.01
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	11.64	3.88	9.84	5.68	10.2	5.32	9.42	6.1
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	10.36	4.94	10.51	4.79	10.74	4.56	10.68	4.62
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	10.18	4.97	10.32	4.83	10.55	4.6	10.49	4.66
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	4.91	6.83	4.99	6.75	4.93	6.81
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	6.45	5.22	6.8	4.87	6.72	4.95
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	5.25	7.29	5.35	7.19	4.71	7.83
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	4.21	8.24	3.94	8.51
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.36	5.08
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.92	4.89
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	--	--	11.36	14.52	11.38	14.5	11.73	14.15	11.93	13.95	12.1	13.78	12.21	13.67	11.98	13.9
GEO-2	5 - 20	26.54	--	--	11.97	14.57	11.99	14.55	12.4	14.14	13.6	12.94	12.81	13.73	12.91	13.63	12.63	13.91
GEO-3	5 - 20	25.64	11.49	14.15	10.76	14.88	11.04	14.6	11.94	13.7	---	---	12.7	12.94	12.94	12.7	12.61	13.03
GEO-4	4 - 19	21.69	11.03	10.66	10.51	11.18	10.87	10.82	11.64	10.05	12.09	9.6	12.55	9.14	13.02	8.67	12.64	9.05
GEO-5	5 - 20	20.14	10.15	9.99	9.7	10.44	10.01	10.13	10.79	9.35	11.25	8.89	11.74	8.4	11.18	8.96	11.72	8.42
GEO-6	5 - 20	17.62	8.54	9.08	8.32	9.3	8.25	9.37	8.9	8.72	9.5	8.12	9.92	7.7	10.22	7.4	9.96	7.66
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	12.01	12.01	12.26	11.76	---	---	---	---	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	12.61	11.66	12.74	11.53	13.25	11.02	13.48	10.79	13.72	10.55	14.04	10.23	13.68	10.59
SH-MW3	10 - 24	22.31	--	--	10.81	11.5	--	--	11.72	10.59	12.08	10.23	12.43	9.88	12.79	9.52	12.41	9.9
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	13.71	13.8	13.83	13.68	13.58	13.93
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	13.99	13.83	14.08	13.74	13.88	13.94
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	14.05	7.75	14.39	7.41	13.86	7.94

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/30/2007		1/9/2008		2/26/2008		3/18/2008		4/15/2008		5/19/2008		7/14/08		8/22/08	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.95	13.95	--	--	--	--	--	--	11.42	14.48	11.57	14.33	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	---	--	--	--	--	--	--
MW-3	unknown	25.31	13.75	11.56	12.86	12.45	12.05	13.26	12.37	12.94	12.81	12.5	12.99	---	--	--	--	--
MW-101	9-19	26.75	13.82	12.93	12.11	14.64	--	--	11.85	14.9	12.02	14.73	12.26	14.49	13.11	13.64	--	--
MW-102	6-16	18.89	8.01	10.88	7.46	11.43	7.29	11.6	7.17	11.72	8.57	10.32	7.9	10.99	9.51	9.38	8.00	10.89
MW-103	6-16	19.47	12.18	7.29	10.74	8.73	10.51	8.96	10.5	8.97	10.82	8.65	11.11	8.36	12.17	7.30	11.17	8.30
MW-104	5-15	17.67	10.07	7.6	8.86	8.81	8.61	9.06	8.48	9.19	9.84	7.83	9.25	8.42	9.67	8.00	9.06	8.61
MW-105	19-29	38.84	22.74	16.1	21.39	17.45	20.79	18.05	20.41	18.43	20.91	17.93	21.24	17.6	22.02	16.82	21.40	17.44
MW-106	9 - 19	26.33	12.27	14.06	11.71	14.62	11.51	14.82	11.38	14.95	12.54	13.79	11.72	14.61	11.68	14.65	11.73	14.60
MW-107	2 - 12	14.63	4.44	10.19	4.35	10.28	--	--	4.46	10.17	5.58	9.05	---	---	4.52	10.11	4.41	10.22
MW-108	2 - 12	12.74	4.74	8.0	3.71	9.03	4.61	8.13	3.68	9.06	3.91	8.83	3.99	8.75	5.16	7.58	4.44	8.30
MW-109	3 - 13	24.12	12.78	11.34	10.64	13.48	10.06	14.06	10.02	14.1	11.64	12.48	11.29	12.83	11.87	12.25	11.18	12.94
MW-110	3 - 13	15.58	3.34	12.24	--	--	0.79	14.79	1.12	14.46	1.57	14.01	2.5	13.08	--	--	3.59	11.99
MW-111	4 - 14	18.95	12.27	6.68	10.51	8.44	10.5	8.45	10.54	8.41	16.64	2.31	10.71	8.24	12.23	6.72	10.73	8.22
MW-112	3 - 10	18.16	Dry	Dry	Dry	Dry	Dry	Dry	--	--	----	---	---	---	--	--	8.33	9.83
MW-112a	4-19	17.78	--	--	12.43	5.35	12.52	5.26	12.61	5.17	13.71	4.07	12.77	5.01	13.56	4.22	12.93	4.85
MW-113	10-20	26.16	12.6	13.56	11.5	14.66	11.28	14.88	11.15	15.01	11.39	14.77	11.62	14.54	12.01	14.15	11.63	14.53
MW-114	7-17	29.43	14.31	15.12	12.08	17.35	11.11	18.32	10.75	18.68	12.42	17.01	12.3	17.13	13.24	16.19	12.21	17.22
MW-115	10-25	27.15	18.24	8.91	16.18	10.97	15.85	11.3	15.86	11.29	16.45	10.7	16.72	10.43	18.49	8.66	16.78	10.37
MW-116	5-15	13.45	--	--	8.6	4.85	8.68	4.77	8.77	4.68	8.85	4.6	8.88	4.57	9.09	4.36	9.01	4.44
MW-117S	5 - 20	21.94	15.95	5.99	13.97	7.97	13.52	8.42	13.5	8.44	14.22	7.72	14.6	7.34	14.99	6.95	13.90	8.04
MW-117T	35 - 45	21.87	16.58	5.29	14.58	7.29	13.97	7.9	13.9	7.97	14.67	7.2	14.94	6.93	15.68	6.19	15.27	6.60
MW-117D	60 - 70	21.78	16.44	5.34	14.46	7.32	13.86	7.92	13.81	7.97	14.51	7.27	14.89	6.89	15.61	6.17	14.67	7.11
MW-118S	3 - 14	15.52	9.4	6.12	8.55	6.97	8.34	7.18	8.4	7.12	10	5.52	9.38	6.14	9.64	5.88	8.48	7.04
MW-118T	39.5 - 49.5	15.30	10.5	4.8	9.93	5.37	9.49	5.81	9.53	5.77	9.83	5.47	9.94	5.36	10.35	4.95	9.92	5.38
MW-118D	70 - 80	15.15	10.25	4.9	9.55	5.6	9.3	5.85	9.35	5.8	9.64	5.51	9.8	5.35	10.11	5.04	9.70	5.45
MW-119S	5 - 20	11.74	4.85	6.89	4.63	7.11	4.6	7.14	4.56	7.18	4.91	6.83	4.92	6.82	4.94	6.80	6.08	5.66
MW-119T	42 - 47	11.67	6.57	5.1	5.82	5.85	5.63	6.04	5.78	5.89	5.97	5.7	6.1	5.57	6.52	5.15	4.52	7.15
MW-120S	5 - 20	12.54	4.62	7.92	3.51	9.03	4.06	8.48	4.0	8.54	5.1	7.44	4.57	7.97	5.18	7.36	4.61	7.93
MW-120D	28 - 38	12.45	3.48	8.97	3.17	9.28	2.96	9.49	3.11	9.34	3.26	9.19	3.44	9.01	3.82	8.63	2.90	9.55
MW-121S	5 - 20	12.44	7.41	5.03	7.24	5.2	7.36	5.08	7.41	5.03	9.39	3.05	7.29	5.15	9.21	3.23	7.70	4.74
MW-121D	32 - 47	12.81	7.75	5.06	6.95	5.86	6.83	5.98	6.91	5.9	7.31	5.5	7.27	5.54	7.64	5.17	7.30	5.51
MW-122	4 - 16	16.42	--	--	--	--	12.98	3.44	13	3.42	13.03	3.39	12.99	3.43	13.15	3.27	13.17	3.25
GEO-1	5 - 20	25.88	11.91	13.97	11.41	14.47	11.22	14.66	--	--	11.25	14.63	11.4	14.48	12.32	13.56	12.00	13.88
GEO-2	5 - 20	26.54	12.57	13.97	12.02	14.52	11.77	14.77	--	--	12.81	13.73	12.01	14.53	11.73	14.81	11.41	15.13
GEO-3	5 - 20	25.64	12.54	13.1	10.99	14.65	10.71	14.93	--	--	10.97	14.67	---	---	12.05	13.59	11.57	14.07
GEO-4	4 - 19	21.69	12.47	9.22	11.72	9.97	10.36	11.33	10.34	11.35	11.46	10.23	11.13	10.56	11.60	10.09	11.16	10.53
GEO-5	5 - 20	20.14	12.62	7.52	9.92	10.22	9.42	10.72	9.52	10.62	10.8	9.34	10.21	9.93	10.89	9.25	10.28	9.86
GEO-6	5 - 20	17.62	9.96	7.66	8.21	9.41	7.78	9.84	7.86	9.76	9.11	8.51	8.51	9.11	9.20	8.42	7.91	9.71
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-MW2	10 - 25	24.27	13.85	10.42	12.77	11.5	12.49	11.78	12.46	11.81	13.62	10.65	12.89	11.38	11.83	12.44	12.92	11.35
SH-MW3	10 - 24	22.31	12.05	10.26	11.55	10.76	10.68	11.63	10.65	11.66	11.83	10.48	11.21	11.1	13.27	9.04	11.30	11.01
MW201	11-21	27.51	13.5	14.01	12.98	14.53	12.76	14.75	12.64	14.87	12.85	14.66	13.94	13.57	13.31	14.2	13.00	14.51
MW202	10.5-20.5	27.82	13.81	14.01	13.41	14.41	13.22	14.6	13.12	14.7	12.73	15.09	13.37	14.45	13.68	14.14	13.41	14.41
MW203	6-18	21.80	13.61	8.19	12.86	8.94	12.03	9.77	12	9.8	13.31	8.49	12.68	9.12	13.15	8.65	12.55	9.25

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	10/20/08		1/13/09		4/13/09		7/14/09		10/14/09		4/12/10		10/27/10		4/20/11	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	12.49	12.82	12.28	13.03	12.92	12.39	13.19	12.12	--	--	--	--	--	--
MW-101	9-19	26.75	12.61	14.14	12.07	14.68	11.91	14.84	12.2	14.55	12.37	14.38	11.61	15.14	--	--	11.73	15.02
MW-102	6-16	18.89	8.49	10.4	7.50	11.39	7.35	11.54	7.85	11.04	7.99	10.9	7.11	11.78	--	--	7.04	11.85
MW-103	6-16	19.47	11.87	7.6	10.73	8.74	10.57	8.9	11.07	8.4	11.34	8.13	10.47	9.00	--	--	10.39	9.08
MW-104	5-15	17.67	9.72	7.95	8.71	8.96	7.98	9.69	8.84	8.83	9.38	8.29	8.52	9.15	--	--	9.28	8.39
MW-105	19-29	38.84	21.8	17.04	20.9	17.94	20.65	18.19	21.4	17.44	21.8	17.04	19.84	19.00	--	--	20.63	18.21
MW-106	9 - 19	26.33	11.64	14.69	11.6	14.73	11.49	14.84	overflowing	--	overflowing	--	11.16	15.17	--	--	11.39	14.94
MW-107	2 - 12	14.63	4.49	10.14	4.5	10.13	4.47	10.16	overflowing	--	overflowing	--	4.31	10.32	--	--	4.43	10.2
MW-108	2 - 12	12.74	4.71	8.03	3.4	9.34	3.73	9.01	4.37	8.37	4.66	8.08	3.86	8.88	--	--	3.56	9.18
MW-109	3 - 13	24.12	11.73	12.39	10.43	13.69	10.4	13.72	11.11	13.01	--	--	9.88	14.24	--	--	10.10	14.02
MW-110	3 - 13	15.58	--	--	1.45	14.13	1.1	14.48	2.88	12.7	2.42	13.16	1.39	14.19	--	--	1.67	13.91
MW-111	4 - 14	18.95	11.37	7.58	10.55	8.4	10.56	8.39	10.67	8.28	10.41	8.54	10.57	8.38	--	--	10.62	8.33
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	13.01	4.77	12.78	5.0	12.63	5.15	12.78	5.0	12.58	5.2	12.62	5.16	12.31	5.47	12.14	5.64
MW-113	10-20	26.16	11.99	14.17	11.41	14.75	11.23	14.93	11.56	14.6	11.73	14.43	10.93	15.23	--	--	11.00	15.16
MW-114	7-17	29.43	13.19	16.24	11.25	18.18	10.97	18.46	12.04	17.39	--	--	10.24	19.19	--	--	10.46	18.97
MW-115	10-25	27.15	17.8	9.35	16.35	10.8	15.4	11.75	16.58	10.57	17.4	9.75	16.43	10.72	--	--	16.22	10.93
MW-116	5-15	13.45	--	--	8.94	--	8.87	4.58	8.97	4.48	8.76	4.69	8.85	4.6	--	--	8.32	5.13
MW-117S	5 - 20	21.94	14.67	7.27	14.02	7.92	14.38	7.56	14.66	7.28	14.75	7.19	13.32	8.62	--	--	14.06	7.88
MW-117T	35 - 45	21.87	15.26	6.61	14.45	7.42	14.43	7.44	15.03	6.84	15.26	6.61	13.56	8.31	--	--	14.18	7.69
MW-117D	60 - 70	21.78	15.27	6.51	14.3	7.48	14.26	7.52	14.89	6.89	15.13	6.65	13.48	8.3	--	--	14.01	7.77
MW-118S	3 - 14	15.52	9.05	6.47	8.41	7.11	8.7	6.82	9.43	6.09	9.01	6.51	8.31	7.21	--	--	8.55	6.97
MW-118T	39.5 - 49.5	15.30	10.19	5.11	9.73	5.57	9.64	5.66	9.92	5.38	9.99	5.31	9.49	5.81	--	--	9.33	5.97
MW-118D	70 - 80	15.15	9.99	5.16	9.54	5.61	9.47	5.68	9.74	5.41	9.73	5.42	9.29	5.86	--	--	9.15	6.00
MW-119S	5 - 20	11.74	4.08	7.66	4.41	7.33	4.21	7.53	4.47	7.27	4.33	7.41	4.33	7.41	--	--	4.08	7.66
MW-119T	42 - 47	11.67	6.78	4.89	5.85	5.82	5.8	5.87	6.04	5.63	6.01	5.66	5.68	5.99	--	--	5.55	6.12
MW-120S	5 - 20	12.54	4.01	8.53	4.03	8.51	3.85	8.69	4.31	8.23	3.58	8.96	3.98	8.56	--	--	3.65	8.89
MW-120D	28 - 38	12.45	3.32	9.13	3.18	9.27	3.11	9.34	3.31	9.14	3.29	9.16	3.04	9.41	--	--	3.18	9.27
MW-121S	5 - 20	12.44	9.01	3.43	7.68	4.76	7.57	4.87	7.62	4.82	7.71	4.73	7.67	4.77	--	--	7.12	5.32
MW-121D	32 - 47	12.81	9.64	3.17	7.07	5.74	6.98	5.83	7.27	5.54	7.37	5.44	6.87	5.94	--	--	6.77	6.04
MW-122	4 - 16	16.42	11.42	5.0	13.15	3.27	13.16	3.26	13.14	3.28	13.12	3.3	13.09	3.33	13.04	3.38	13.06	3.36
GEO-1	5 - 20	25.88	12.14	13.74	11.26	14.62	11.07	14.81	11.31	14.57	11.54	14.34	17.06	8.82	--	--	10.92	14.96
GEO-2	5 - 20	26.54	11.58	14.96	11.88	14.66	11.7	14.84	11.99	14.55	12.25	14.29	11.41	15.13	--	--	10.55	15.99
GEO-3	5 - 20	25.64	--	--	--	--	10.86	14.78	11.48	14.16	11.79	13.85	10.27	15.37	--	--	10.62	15.02
GEO-4	4 - 19	21.69	11.89	9.8	10.56	11.13	10.21	11.48	11.00	10.69	--	--	10.26	11.43	--	--	--	--
GEO-5	5 - 20	20.14	11.79	8.35	9.70	10.44	9.30	10.84	10.08	10.06	10.44	9.7	9.48	10.66	--	--	9.18	10.96
GEO-6	5 - 20	17.62	10.95	6.67	8.02	9.6	7.48	10.14	8.18	9.44	8.66	8.96	7.62	10	--	--	7.63	9.99
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.01	12.26	12.63	11.64	12.33	11.94	12.77	11.5	13.01	11.26	10.61	13.66	--	--	12.29	11.98
SH-MW3	10 - 24	22.31	12.49	9.82	10.87	11.44	10.52	11.79	11.12	11.19	11.46	10.85	12.39	9.92	--	--	10.46	11.85
MW201	11-21	27.51	14.64	12.87	13.27	14.24	12.69	14.82	12.94	14.57	13.09	14.42	12.42	15.09	--	--	12.57	14.94
MW202	10.5-20.5	27.82	13.29	14.53	12.82	15	13.15	14.67	13.33	14.49	13.55	14.27	12.94	14.88	--	--	13.02	14.80
MW203	6-18	21.80	13.02	8.78	12.25	9.55	11.5	10.3	12.29	9.51	12.77	9.03	12.03	9.77	--	--	11.83	9.97

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/16/11		4/16/12		11/12/12		4/23/13		11/18/13		4/30/14		6/11/14		11/18/14	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	12.71	14.04	--	--	12.41	14.34	--	--	12.03	14.72	--	--	--	--
MW-102	6-16	18.89	--	--	8.53	10.36	--	--	8.01	10.88	--	--	7.68	11.21	--	--	--	--
MW-103	6-16	19.47	--	--	11.79	7.68	--	--	11.22	8.25	--	--	10.96	8.51	--	--	--	--
MW-104	5-15	17.67	--	--	10.24	7.43	--	--	9.64	8.03	--	--	9.5	8.17	--	--	--	--
MW-105	19-29	38.84	--	--	--	--	--	--	21.31	17.53	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	11.71	14.62	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	3.61	11.02	--	--	--	--
MW-108	2 - 12	12.74	--	--	4.72	8.02	--	--	4.34	8.4	--	--	4.09	8.65	--	--	--	--
MW-109	3 - 13	24.12	--	--	12.15	11.97	--	--	11.37	12.75	--	--	10.79	13.33	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	2.61	12.97	--	--	--	--
MW-111	4 - 14	18.95	--	--	11.6	7.35	--	--	11.01	7.94	--	--	10.96	7.99	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	12.30	5.48	12.70	5.08	12.72	5.06	12.80	4.98	13.11	4.67	--	--	12.86	4.92	12.39	5.39
MW-113	10-20	26.16	--	--	12.11	14.05	--	--	11.73	14.43	--	--	11.42	14.74	--	--	--	--
MW-114	7-17	29.43	--	--	13.70	15.73	--	--	12.24	17.19	--	--	12.05	17.38	--	--	--	--
MW-115	10-25	27.15	--	--	18.51	8.64	--	--	17.76	9.39	--	--	17.51	9.64	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	9.06	12.88	--	--	14.39	7.55	--	--	13.63	8.31	--	--	--	--
MW-117T	35 - 45	21.87	--	--	15.58	6.29	--	--	15.19	6.68	--	--	14.78	7.09	--	--	--	--
MW-117D	60 - 70	21.78	--	--	15.81	5.97	--	--	15.09	6.69	--	--	14.71	7.07	--	--	--	--
MW-118S	3 - 14	15.52	--	--	9.66	5.86	--	--	9.41	6.11	--	--	9.01	6.51	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	10.30	5	--	--	10.12	5.18	--	--	9.94	5.36	--	--	--	--
MW-118D	70 - 80	15.15	--	--	10.11	5.04	10.03	5.12	10.00	5.15	10.73	4.42	9.82	5.33	--	--	10.20	4.95
MW-119S	5 - 20	11.74	--	--	5.14	6.6	--	--	4.70	7.04	--	--	4.31	7.43	--	--	--	--
MW-119T	42 - 47	11.67	--	--	6.50	5.17	--	--	6.25	5.42	--	--	6.11	5.56	--	--	--	--
MW-120S	5 - 20	12.54	--	--	4.78	7.76	--	--	4.26	8.28	--	--	4.19	8.35	--	--	--	--
MW-120D	28 - 38	12.45	--	--	3.87	8.58	--	--	3.40	9.05	--	--	4.41	8.04	--	--	--	--
MW-121S	5 - 20	12.44	--	--	7.26	5.18	--	--	6.93	5.51	--	--	5.95	6.49	--	--	--	--
MW-121D	32 - 47	12.81	--	--	7.69	5.12	7.55	5.26	7.41	5.4	8.13	4.68	7.35	5.46	--	--	7.27	5.54
MW-122	4 - 16	16.42	13.16	3.26	13.1	3.32	13.16	3.26	13.14	3.28	13.12	3.3	13.12	3.30	--	--	13.04	3.38
GEO-1	5 - 20	25.88	--	--	--	--	--	--	11.50	14.38	--	--	11.19	14.69	--	--	--	--
GEO-2	5 - 20	26.54	--	--	11.81	14.73	--	--	12.19	14.35	--	--	11.99	14.55	--	--	--	--
GEO-3	5 - 20	25.64	--	--	12.21	13.43	--	--	11.57	14.07	--	--	11.10	14.54	--	--	--	--
GEO-4	4 - 19	21.69	--	--	11.98	9.71	--	--	11.29	10.4	--	--	11.09	10.6	--	--	--	--
GEO-5	5 - 20	20.14	--	--	11.18	8.96	--	--	10.45	9.69	--	--	10.25	9.89	--	--	--	--
GEO-6	5 - 20	17.62	--	--	9.54	8.08	--	--	8.56	9.06	--	--	8.30	9.32	--	--	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	13.53	10.74	--	--	13.13	11.14	--	--	12.95	11.32	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	12.00	10.31	--	--	11.43	10.88	--	--	11.23	11.08	--	--	--	--
MW201	11-21	27.51	--	--	13.43	14.08	--	--	13.15	14.36	--	--	12.97	14.54	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	13.54	14.28	--	--	13.32	14.50	--	--	--	--
MW203	6-18	21.80	--	--	13.85	7.95	--	--	13.15	8.65	--	--	12.92	8.88	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/1/15		4/17/15		11/19/15		4/27/16		11/21/16		4/14/17		11/8/17		1/31/18	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6-16	18.89	6.99	11.9	--	--	--	--	8.02	10.87	--	--	--	--	--	--	7.94	10.95
MW-103	6-16	19.47	10.43	9.04	--	--	--	--	11.49	7.98	--	--	--	--	--	--	11.12	8.35
MW-104	5-15	17.67	8.04	9.63	--	--	--	--	10.63	7.04	--	--	9.05	8.62	--	--	11.99	5.68
MW-105	19-29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	4.49	10.14	--	--	4.51	10.12	--	--	4.56	10.07
MW-108	2 - 12	12.74	3.31	9.43	--	--	--	--	4.11	8.63	--	--	3.78	8.96	--	--	4.02	8.72
MW-109	3 - 13	24.12	9.61	14.51	--	--	--	--	11.25	12.87	--	--	9.86	14.26	--	--	11.02	13.10
MW-110	3 - 13	15.58	0.60	14.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	10.80	8.15	--	--	--	--	11.50	7.45	--	--	Dry	Dry	--	--	Dry	Dry
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	6.44	11.72	--	--	--	--
MW-112a	4-19	17.78	--	--	12.86	4.92	--	--	11.14	6.64	13.12	4.66	12.88	4.90	15.32	2.46	12.85	4.93
MW-113	10-20	26.16	10.64	15.52	--	--	--	--	11.65	14.51	--	--	10.83	15.33	--	--	13.90	12.26
MW-114	7-17	29.43	10.06	19.37	--	--	--	--	12.45	16.98	--	--	10.70	18.73	--	--	12.89	16.54
MW-115	10-25	27.15	16.50	10.65	--	--	--	--	18.23	8.92	--	--	17.33	9.82	--	--	18.17	8.98
MW-116	5-15	13.45	--	--	--	--	--	--	9.34	4.11	--	--	9.18	4.27	--	--	9.22	4.23
MW-117S	5 - 20	21.94	9.66	12.28	--	--	--	--	14.09	7.85	--	--	12.49	9.45	--	--	16.65	5.29
MW-117T	35 - 45	21.87	13.95	7.92	--	--	--	--	15.59	6.28	--	--	14.36	7.51	--	--	17.76	4.11
MW-117D	60 - 70	21.78	13.88	7.90	--	--	--	--	--	--	--	--	12.93	8.85	--	--	12.11	9.67
MW-118S	3 - 14	15.52	8.04	7.48	--	--	--	--	9.30	6.22	--	--	8.37	7.15	--	--	12.17	3.35
MW-118T	39.5 - 49.5	15.30	9.63	5.67	--	--	--	--	10.37	4.93	--	--	9.80	5.5	--	--	12.45	2.85
MW-118D	70 - 80	15.15	9.47	5.68	--	--	11.99	3.16	10.20	4.95	10.42	4.73	9.61	5.54	10.27	4.88	--	--
MW-119S	5 - 20	11.74	4.16	7.58	--	--	--	--	4.64	7.10	--	--	4.43	7.31	--	--	--	--
MW-119T	42 - 47	11.67	5.80	5.87	--	--	--	--	6.43	5.24	--	--	5.95	5.72	--	--	--	--
MW-120S	5 - 20	12.54	3.54	9.00	--	--	--	--	3.16	9.38	--	--	3.91	8.63	--	--	5.72	6.82
MW-120D	28 - 38	12.45	3.10	9.35	--	--	--	--	3.68	8.77	--	--	3.19	9.26	--	--	6.30	6.15
MW-121S	5 - 20	12.44	6.77	5.67	--	--	--	--	--	--	--	--	7.73	4.71	--	--	7.76	4.68
MW-121D	32 - 47	12.81	7.01	5.80	--	--	8.83	3.98	--	--	7.85	4.96	7.17	5.64	7.75	5.06	7.50	5.31
MW-122	4 - 16	16.42	13.15	3.27	--	--	13.23	3.19	13.19	3.23	13.21	3.21	13.18	3.24	13.17	3.25	13.19	3.23
GEO-1	5 - 20	25.88	10.69	15.19	--	--	--	--	11.39	14.49	--	--	10.75	15.13	--	--	--	--
GEO-2	5 - 20	26.54	11.34	15.20	--	--	--	--	12.18	14.36	--	--	11.51	15.03	--	--	--	--
GEO-3	5 - 20	25.64	9.92	15.72	--	--	--	--	--	--	--	--	10.25	15.39	--	--	11.40	14.24
GEO-4	4 - 19	21.69	10.17	11.52	--	--	--	--	11.61	10.08	--	--	10.59	11.1	--	--	11.20	10.49
GEO-5	5 - 20	20.14	9.29	10.85	--	--	--	--	10.94	9.20	--	--	9.81	10.33	--	--	10.44	9.70
GEO-6	5 - 20	17.62	7.84	9.78	--	--	--	--	9.72	7.90	--	--	8.42	9.2	--	--	9.12	8.50
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.41	11.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	10.55	11.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11-21	27.51	12.40	15.11	--	--	--	--	13.15	14.36	--	--	--	--	--	--	15.36	12.15
MW202	10.5-20.5	27.82	12.93	14.89	--	--	--	--	13.53	14.29	--	--	--	--	--	--	15.77	12.05
MW203	6-18	21.80	12.05	9.75	--	--	--	--	13.93	7.87	--	--	--	--	--	--	15.76	6.04

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/2/18		11/15/18		4/15/19		11/22/19		4/13/20		11/18/20		4/12/21		11/30/21	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6-16	18.89	7.58	11.31	--	--	7.21	11.68	--	--	7.37	11.52	--	--	8.13	10.76	--	--
MW-103	6-16	19.47	10.81	8.66	--	--	7.26	12.21	--	--	10.70	8.77	--	--	11.90	7.57	--	--
MW-104	5-15	17.67	9.21	8.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	19-29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	NM- Flooded	--	--	--
MW-107	2 - 12	14.63	4.51	10.12	--	--	4.74	9.89	--	--	4.42	10.21	--	--	4.48	10.15	--	--
MW-108	2 - 12	12.74	4.05	8.69	--	--	3.95	8.79	--	--	3.86	8.88	--	--	4.05	8.69	--	--
MW-109	3 - 13	24.12	10.51	13.61	--	--	10.62	13.5	--	--	10.41	13.71	--	--	11.31	12.81	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	1.99	13.59	--	--
MW-111	4 - 14	18.95	NF	NF	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	5.05	13.11	--	--	6.75	11.41	--	--	8.06	10.1	--	--
MW-112a	4-19	17.78	--	--	13.09	4.69	12.3	5.48	13.00	4.78	12.75	5.03	13.08	4.70	13.05	4.73	12.80	4.98
MW-113	10-20	26.16	11.35	14.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	11.29	18.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	17.66	9.49	--	--	16.96	10.19	--	--	17.89	9.26	--	--	19.4	7.75	--	--
MW-116	5-15	13.45	9.14	4.31	--	--	8.35	5.1	--	--	9.17	4.28	--	--	9.51	3.94	--	--
MW-117S	5 - 20	21.94	13.07	8.87	--	--	9.19	12.75	--	--	12.69	9.25	--	--	13.51	8.43	--	--
MW-117T	35 - 45	21.87	14.75	7.12	--	--	14.46	7.41	--	--	16.06	5.81	--	--	16.35	5.52	--	--
MW-117D	60 - 70	21.78	13.5	8.28	--	--	11.76	10.02	--	--	10.11	11.67	--	--	16.31	5.47	--	--
MW-118S	3 - 14	15.52	8.75	6.77	--	--	9.84	5.68	--	--	8.85	6.67	--	--	8.95	6.57	--	--
MW-118T	39.5 - 49.5	15.30	9.96	5.34	--	--	9.52	5.78	--	--	10.24	5.06	--	--	10.77	4.53	--	--
MW-118D	70 - 80	15.15	9.74	5.41	9.23	5.92	9.31	5.84	10.49	4.66	10.09	5.06	10.65	4.5	10.59	4.56	10.55	4.6
MW-119S	5 - 20	11.74	4.56	7.18	--	--	4.05	7.69	--	--	3.49	8.25	--	--	4.20	7.54	--	--
MW-119T	42 - 47	11.67	6.12	5.55	--	--	5.86	5.81	--	--	6.20	5.47	--	--	6.85	4.82	--	--
MW-120S	5 - 20	12.54	3.97	8.57	--	--	3.85	8.69	--	--	3.35	9.19	--	--	4.30	8.24	--	--
MW-120D	28 - 38	12.45	3.41	9.04	--	--	3.21	9.24	--	--	3.93	8.52	--	--	3.81	8.64	--	--
MW-121S	5 - 20	12.44	7.32	5.12	--	--	6.8	5.64	--	--	7.72	4.72	--	--	7.73	4.71	--	--
MW-121D	32 - 47	12.81	7.74	5.07	6.79	6.02	6.94	5.87	7.66	5.15	7.40	5.41	8	4.81	8.05	4.76	8.15	4.66
MW-122	4 - 16	16.42	13.13	3.29	13.17	3.25	12.81	3.61	13.15	3.27	13.01	3.41	13.11	3.31	13.02	3.4	13.1	3.32
GEO-1	5 - 20	25.88	11.11	14.77	--	--	11.1	14.78	--	--	10.40	15.48	--	--	11.01	14.87	--	--
GEO-2	5 - 20	26.54	11.83	14.71	--	--	12.98	13.56	--	--	11.11	15.43	--	--	12.26	14.28	--	--
GEO-3	5 - 20	25.64	10.79	14.85	--	--	11.06	14.58	--	--	10.36	15.28	--	--	ND-Bott at 11.15	--	--	--
GEO-4	4 - 19	21.69	11.20	10.49	--	--	10.72	10.97	--	--	11.41	10.28	--	--	12.41	9.28	--	--
GEO-5	5 - 20	20.14	10.2	9.94	--	--	7.55	12.59	--	--	11.32	8.82	--	--	12.26	7.88	--	--
GEO-6	5 - 20	17.62	8.67	8.95	--	--	8.23	9.39	--	--	11.62	6	--	--	12.21	5.41	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.84	11.43	--	--	12.55	11.72	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11-21	27.51	13.34	14.17	--	--	12.92	14.59	--	--	12.00	15.51	--	--	12.69	14.82	--	--
MW202	10.5-20.5	27.82	12.86	14.96	--	--	13.3	14.52	--	--	12.31	15.51	--	--	12.99	14.83	--	--
MW203	6-18	21.80	12.98	8.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--

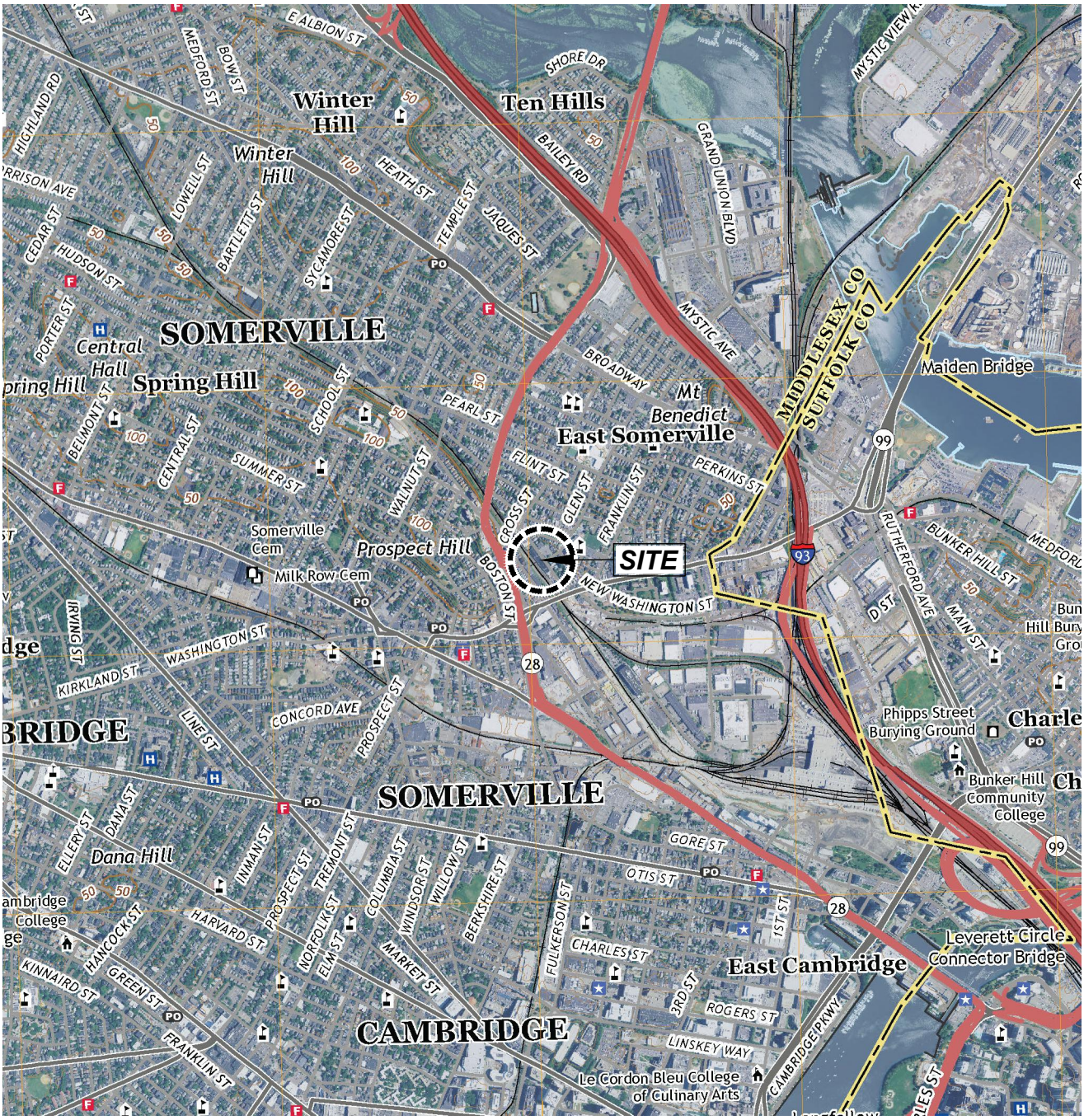
General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 9-1. Groundwater Elevations
Phase V Status Report No. 24 and Remedial Monitoring Report No. 39
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/12/22		11/29/22		4/17/23	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	--	--	--	--
MW-102	6-16	18.89	--	--	--	--	8.18	10.71
MW-103	6-16	19.47	--	--	--	--	--	--
MW-104	5-15	17.67	--	--	--	--	--	--
MW-105	19-29	38.84	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	4.43	10.2
MW-108	2 - 12	12.74	--	--	--	--	4.34	8.4
MW-109	3 - 13	24.12	--	--	--	--	11.49	12.63
MW-110	3 - 13	15.58	--	--	--	--	2.5	13.08
MW-111	4 - 14	18.95	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--
MW-112a	4-19	17.78	12.55	5.23	12.81	4.97	12.67	5.11
MW-113	10-20	26.16	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	19.61	7.54
MW-116	5-15	13.45	9	4.45	--	--	9.03	4.42
MW-117S	5 - 20	21.94	12.8	9.14	--	--	11.19	10.75
MW-117T	35 - 45	21.87	16	5.87	--	--	16.1	5.77
MW-117D	60 - 70	21.78	15.6	6.18	--	--	16.07	5.71
MW-118S	3 - 14	15.52	9.1	6.42	--	--	9.17	6.35
MW-118T	39.5 - 49.5	15.30	10.6	4.7	--	--	10.6	4.7
MW-118D	70 - 80	15.15	10.2	4.95	10.97	4.18	10.5	4.65
MW-119S	5 - 20	11.74	4.05	7.69	--	--	5.1	6.64
MW-119T	42 - 47	11.67	6.7	4.97	--	--	6.73	4.94
MW-120S	5 - 20	12.54	5	7.54	--	--	4.31	8.23
MW-120D	28 - 38	12.45	4.5	7.95	--	--	3.81	8.64
MW-121S	5 - 20	12.44	8	4.44	--	--	7.58	4.86
MW-121D	32 - 47	12.81	7.7	5.11	8.40	4.41	8.05	4.76
MW-122	4 - 16	16.42	12.9	3.52	13.15	3.27	13.1	3.32
GEO-1	5 - 20	25.88	10.85	15.03	--	--	11.16	14.72
GEO-2	5 - 20	26.54	12.2	14.34	--	--	12.1	14.44
GEO-3	5 - 20	25.64	--	--	--	--	--	--
GEO-4	4 - 19	21.69	--	--	--	--	12.83	8.86
GEO-5	5 - 20	20.14	--	--	--	--	12.79	7.35
GEO-6	5 - 20	17.62	--	--	--	--	12.75	4.87
SH-1	9 - 14	29.55	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	--	--	--	--
MW201	11-21	27.51	--	--	--	--	13.84	13.67
MW202	10.5-20.5	27.82	12.9	14.92	--	--	13.2	14.62
MW203	6-18	21.80	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

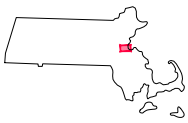
Figures



0 1000 2000 4000 6000

SCALE, FEET

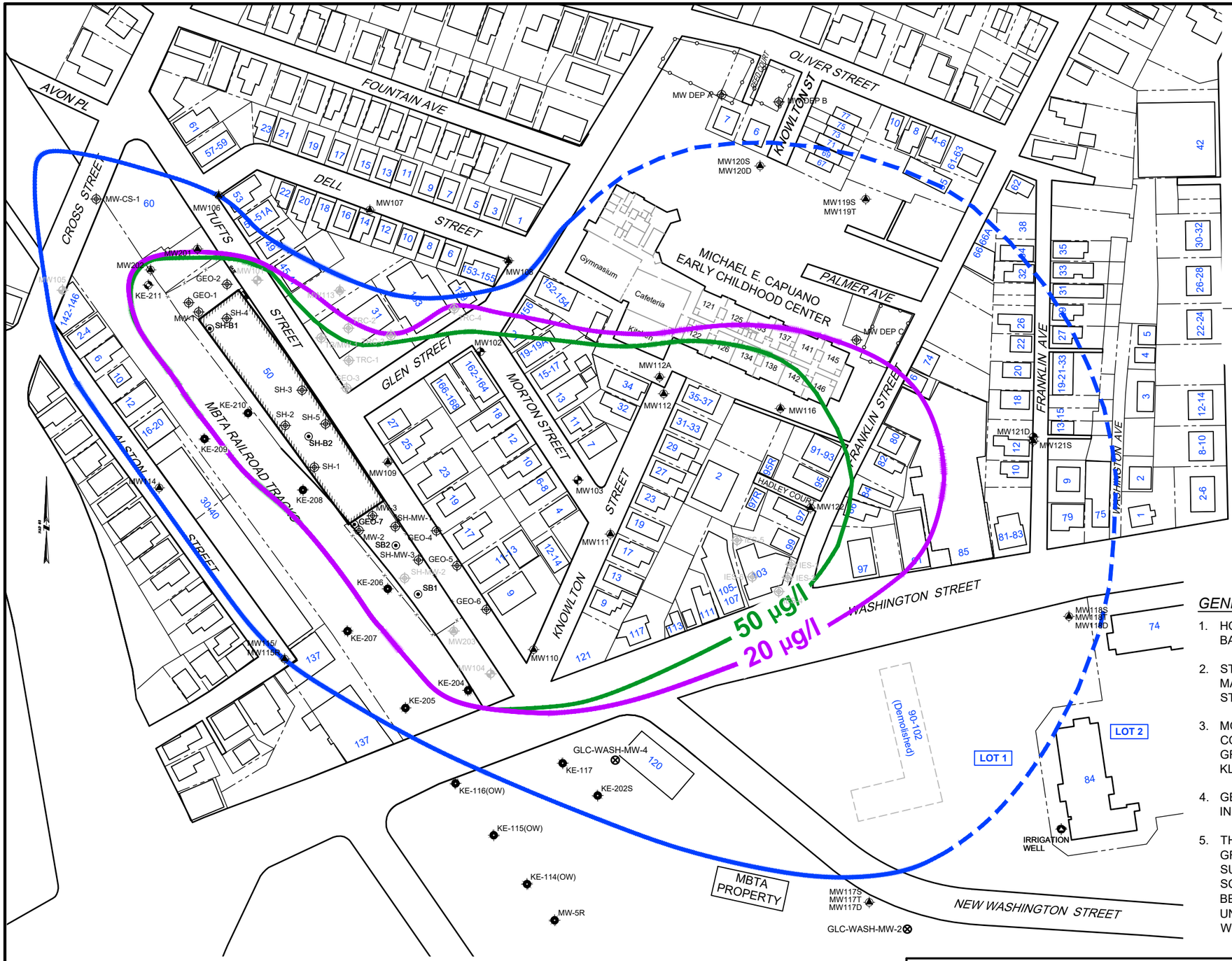
This Image is from U.S.G.S. Topographic 7.5 Minute Series
Boston North, MA Quadrangle, 2018.
Datum is North American Vertical Datum of 1988 (NAVD88).
Contour Interval is 10 Feet.



MASSACHUSETTS
QUADRANGLE LOCATION

Phase V Status Report No. 24 and Remedial Monitoring Report No. 39 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2023 Fig. 1

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163 Ph V SR Fig 1-1 slm



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l
- µg/l = MICROGRAMS PER LITER

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. THE 20 µg/l AND 50 µg/l BOUNDARY LINES ARE BASED ON SHALLOW GROUNDWATER ANALYTICAL RESULTS (0 TO 15 FEET BELOW GROUND SURFACE) COLLECTED THROUGH NOVEMBER 2022. KE-204 IS A WELL SCREENED GREATER THAN 15 FEET BELOW GROUND SURFACE, BUT HAS BEEN INCLUDED IN THE 20 µg/l AND 50 µg/l BOUNDARY LINES BECAUSE OF UNCERTAINTY ON THE SHALLOW GROUNDWATER CONCENTRATIONS WITHIN THE IMMEDIATE VICINITY OF THIS WELL.

Phase V Status Report No. 24 and
Remedial Monitoring Report No. 39
50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

DISPOSAL SITE MAP AND SITE BOUNDARY

Project 04516-3 | August 2023 | Fig. 1-2

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163 PhV SR DSB

LEGEND

PCE CONCENTRATIONS

- Not Detected
- Less than RCS-1
- 0.65 Greater than RCS-1 (1 mg/kg) (Detected concentration presented in mg/kg)

DISPOSAL SITE BOUNDARY

NOTES

1. Historic soil characterization samples reportedly collected between 2010 and 2014 by Vanasse Hangen Brustlin, Inc., Nobis Group, and Kleinfelder, Inc. Source: Green Line Extension Project Release Abatement Measure (RAM) Plan Historic Fill and Soil Impacted by Railroad Operations - Special Project Designation, dated February 2015 (Kleinfelder).

2. More recent soil characterization samples collected between 2018 and 2020 by TRC Companies, Inc.

Phase V Status Report No. 19 and
Remedial Monitoring Report No. 34
50 Tufts Street Somerville, Massachusetts

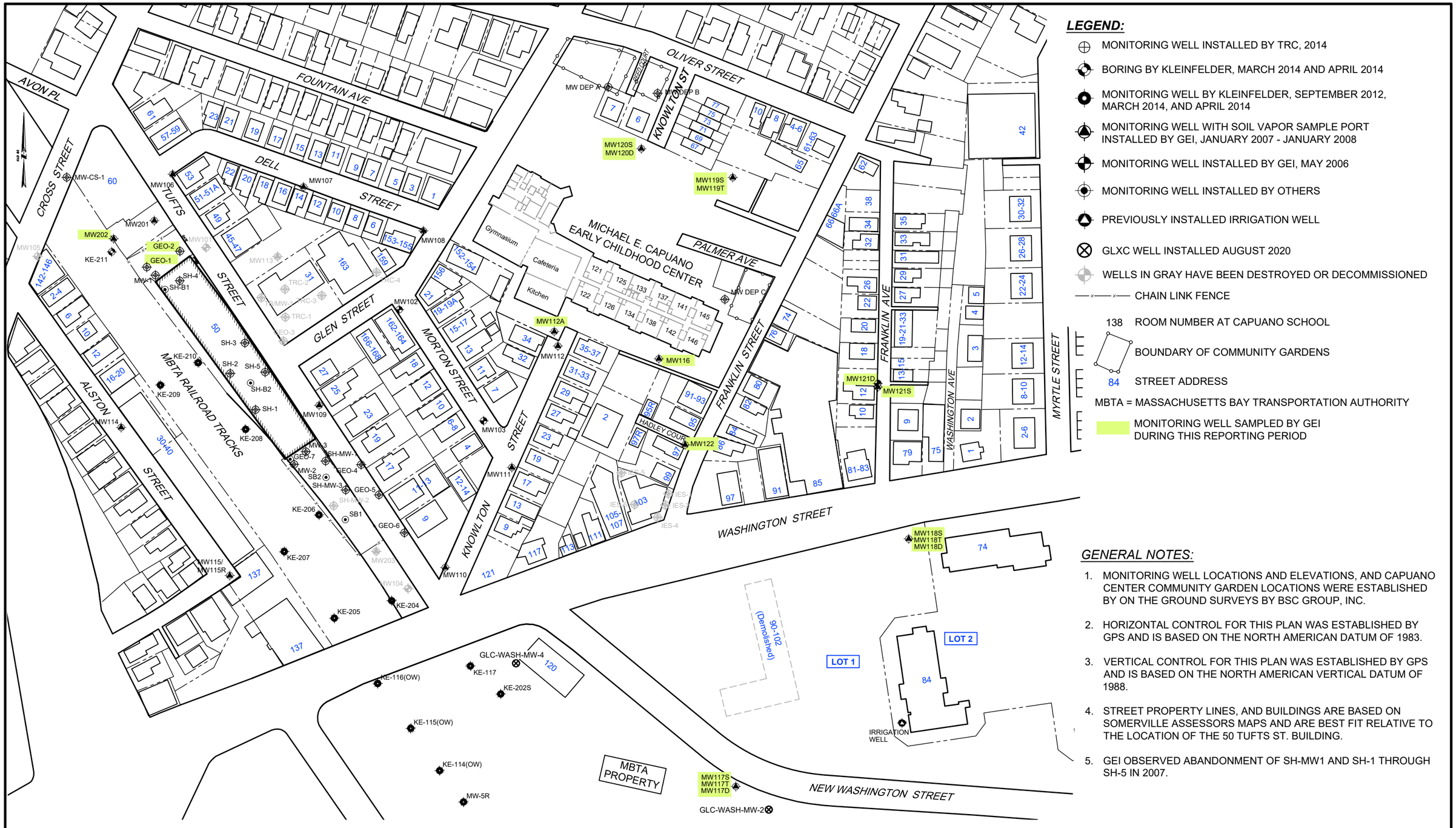
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

KLEINFELDER SOIL DATA AND GLX PROJECT PRE-CHARACTERIZATION SAMPLES

Project 04516-3 | August 2023 | Fig. 2-1

B:\Private\04516\20.0 GIS Data\Map_Files\SR 24 RMR 39\Fig 2-1_GLX Project Pre-Characterization.mxd



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- WELLS IN GRAY HAVE BEEN DESTROYED OR DECOMMISSIONED
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- MONITORING WELL SAMPLED BY GEI DURING THIS REPORTING PERIOD

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET PROPERTY LINES, AND BUILDINGS ARE BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

Phase V Status Report No. 24 and
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50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

MONITORING WELL LOCATIONS

Project 04516-3 | August 2023 | Fig. 4-1

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163 PhV SR MW Loc

Phase V Status Report No. 24 and
Remedial Monitoring Report No. 39
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SUB-SLAB SOIL VAPOR AND INDOOR AIR SAMPLING

Project 04516-3 | August 2023 | Fig. 4-2

B:\Private\04516\20.0 GIS Data\Map_Files\SR 24 RMR 39\Fig 4-2 IA and SV sampling.mxd

Notes:
1. EPMMs demonstrated to be no longer required based on testing requirements in the MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435 (Section 3.7 and Tables 3-1 and 3-2).

Phase V Status Report No. 24 and Remedial Monitoring Report No. 39 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM INSTALLATION PROGRESS
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2023 Fig. 6-1

B:\Private\04516\20.0 GIS Data\Map_Files\SR 24 RMR 39\Fig 6-1_EPMM Installation Progress.mxd

Preferred Criteria For:

Option 1 (SSDS):

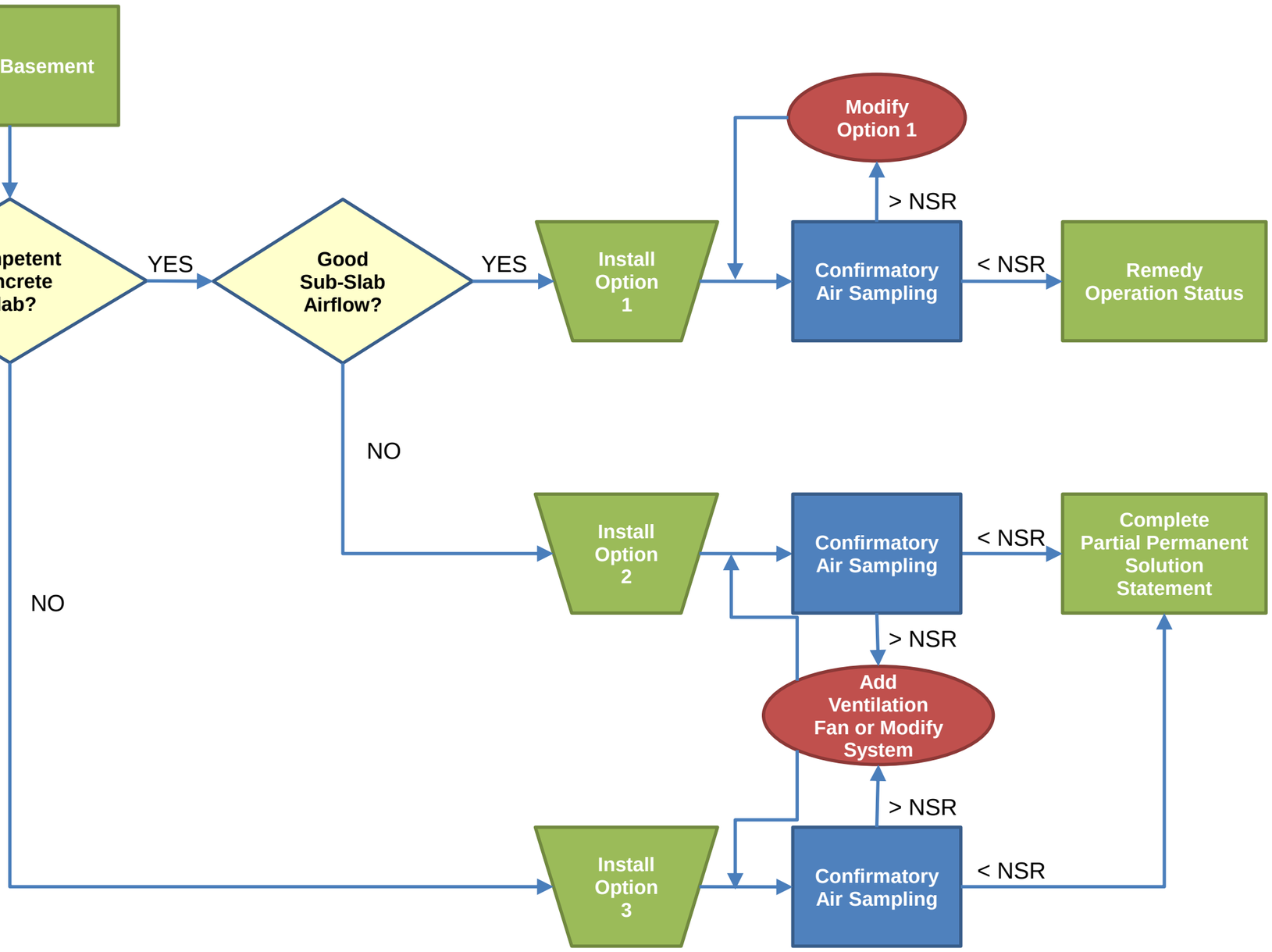
1. Competent concrete slab
2. Poured concrete foundation
3. Granular sub-grade (good sub-slab air flow)

Option 2 (Vapor Trench):

1. Competent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)

Option 3 (New Slab Installation):

1. Incompetent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)



NSR = No Significant Risk

Phase V Status Report No. 24 and Remedial Monitoring Report No. 39 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM MITIGATION FLOW CHART
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2023 Fig. 6-2

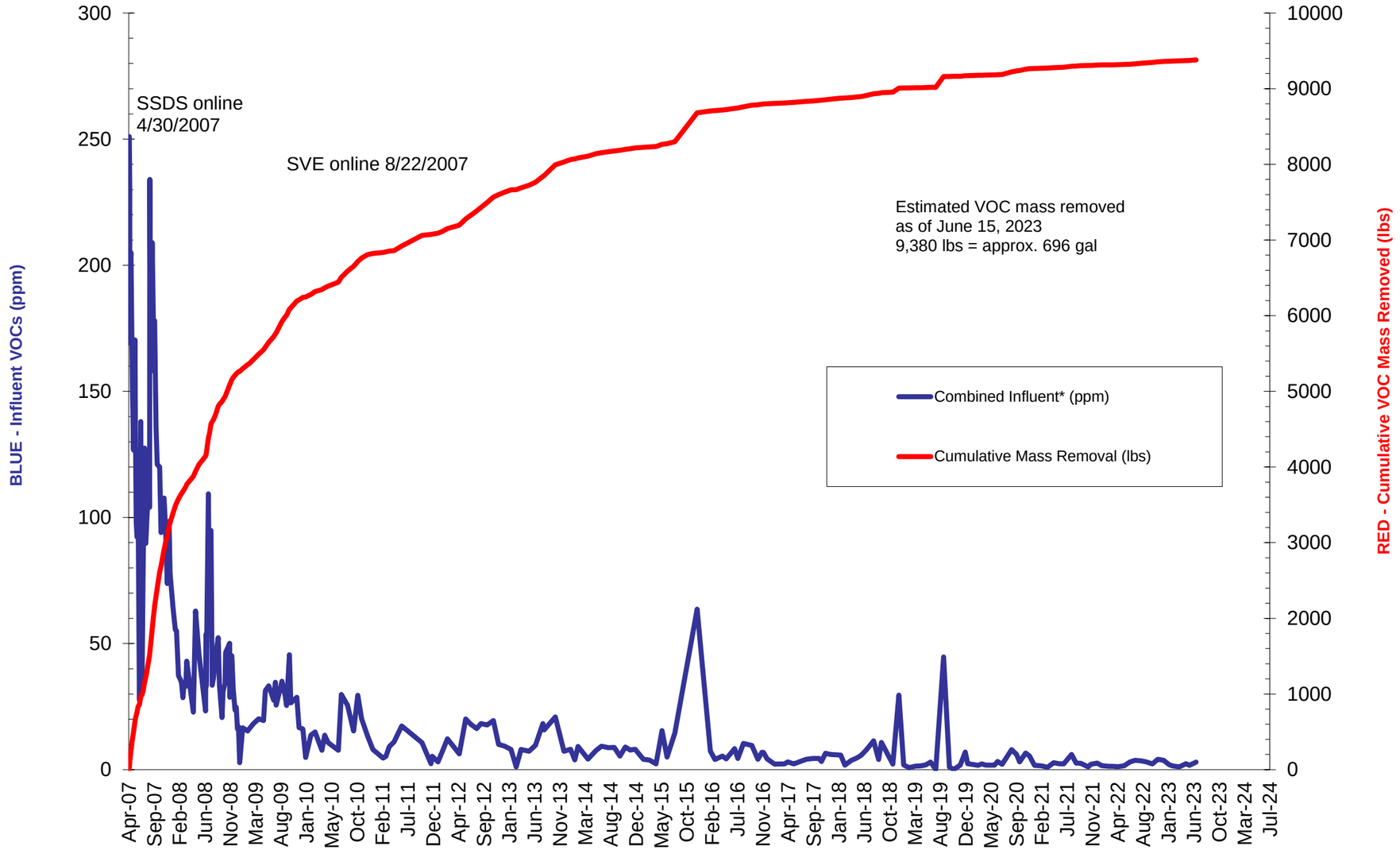
LEGEND:

PERMANENT SOLUTION STATUS

- PERMANENT SOLUTION WITH CONDITIONS PARTIAL STATEMENT SUBMITTED
- PERMANENT SOLUTION WITHOUT CONDITIONS PARTIAL STATEMENT SUBMITTED
- REMEDY OPERATION STATUS
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)

Phase V Status Report No. 24 and Remedial Monitoring Report No. 39 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	PERMANENT SOLUTION STATUS
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2023 — Fig. 6-3

B:\Private\04516\20.0 GIS Data\Map_Files\SR 24 RMR 39\Fig 6-3_Permanent Solution Sta



General Notes:

lbs = pounds.

PCE = tetrachloroethylene (perchloroethylene).

ppm = parts per million.

SSDS = sub-slab depressurization system.

SVE = soil vapor extraction system.

VOC = volatile organic compound.

*Influent concentrations measured by a photoionization detector (PID).

Phase V Status Report No. 24 and Remedial Monitoring Report No. 39 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	COMBINED INFLUENT VOC CONCENTRATIONS AND CUMULATIVE VOC REMOVAL
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2023 Fig. 8-1

Appendix A

MassDEP Transmittal Forms BWSC-108, BWSC-108A, BWSC-108B

Comprehensive Response Action Transmittal Forms:

- **BWSC-108A 1 of 5 (50 Tufts SSDS)**
- **BWSC-108B 1 of 5 (50 Tufts SSDS)**
- **BWSC-108A 2 of 5 (50 Tufts SVE)**
- **BWSC-108B 2 of 5 (50 Tufts SVE)**
- **BWSC-108A 3 of 5 (Capuano Center)**
- **BWSC-108B 3 of 5 (Capuano Center)**
- **BWSC-108A 4 of 5 (Residences)**
- **BWSC-108A 5 of 5 (MNA)**

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 23246

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 021454129

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit [illegible] **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR [illegible].

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

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B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☑ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☑ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☑ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☑ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: 5

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☑ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

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C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

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I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9719
2. First Name: ILEEN S
3. Last Name: GLADSTONE
4. Telephone: 7817214012
5. Ext.:
6. Email: igladstone@geiconsultants.com
7. Signature:
8. Date: (mm/dd/yyyy)
9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☑ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: CATHERINE 4. Last Name: MALAGRIDA

5. Street: 68 JONSPIN ROAD 6. Title: ENVIRONMENTAL COMPLIANCE MANAGER

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018870000

10. Telephone: 9786588888 11. Ext: 0587 12. Email: CATHERINE_MALAGRIDA@UNIFIRST.COM

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

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☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☑ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☑ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@state.ma.us.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: _____ (Signature) 3. Title: ENVIRONMENTAL COMPLIANCE MANAGER

4. For: UNIFIRST CORPORATION (Name of person or entity recorded in Section D) 5. Date: _____ (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext. _____ 13. Email: _____

DRAFT COPY

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

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B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/6/2022 (mm/dd/yyyy) To: 6/15/2023 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☐ ii. Quarterly
  - ☐ iii. Annually
  - ☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 362 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

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☐ b. No Further Effluent Discharge

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	12/19/2022	TOTAL VOCS	3.7		0.0	☑	0.185	PPMV	YES
SSDS	01/19/2023	TOTAL VOCS	2.0		0.0	☑	0.100	PPMV	YES
SSDS	02/06/2023	TOTAL VOCS	1.5		0.0	☑	0.075	PPMV	YES
SSDS	03/15/2023	TOTAL VOCS	1.1		0.0	☑	0.055	PPMV	YES
SSDS	04/15/2023	TOTAL VOCS	2.4		0.0	☑	0.120	PPMV	YES
SSDS	5/11/2023	TOTAL VOCS	1.7		0.0	☑	0.085	PPMV	YES
SSDS	6/[illegible]/2023	TOTAL VOCS	3.0		0.0	☑	0.150	PPMV	YES

☐ Check here if any additional BWSC108-B Measurements Form(s), are needed.

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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☑ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☑ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

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B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/6/2022 (mm/dd/yyyy) To: 6/15/2023 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☐ ii. Quarterly
  - ☐ iii. Annually
  - ☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: _____ b. Grade: _____
c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required
☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____
c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____
e. Avg. Soil Gas Recovery Rate (scfm): 362 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.
☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)
☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)
☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

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☐ b. No Further Effluent Discharge

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -B

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3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	12/19/2022	TOTAL VOCS	3.7		0.0	☑	0.185	PPMV	YES
SSDS	01/19/2022	TOTAL VOCS	2.0		0.0	☑	0.100	PPMV	YES
SSDS	02/06/2023	TOTAL VOCS	1.5		0.0	☑	0.075	PPMV	YES
SSDS	03/15/2023	TOTAL VOCS	1.1		0.0	☑	0.055	PPMV	YES
SSDS	04/15/2023	TOTAL VOCS	2.4		0.0	☑	0.120	PPMV	YES
SSDS	5/11/2023	TOTAL VOCS	1.7		0.0	☑	0.085	PPMV	YES
SSDS	6/[illegible]/2023	TOTAL VOCS	3.0		0.0	☑	0.150	PPMV	YES

☐ Check here if any additional BWSC108-B Measurements Form(s), are needed.

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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

DRAFT COPY

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/6/2022 (mm/dd/yyyy) To: 6/15/2023 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☑ ii. Quarterly
- ☐ iii. Annually
- ☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: _____ b. Grade: _____
c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required
☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____
c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____
e. Avg. Soil Gas Recovery Rate (scfm): 60 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.
☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)
☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)
☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharge

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

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G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☐ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☐ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☐ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -B

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For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	01/19/2023	TOTAL VOCS	0.0		0.0	☑	8	PPMV	YES
SSDS	04/21/2023	TOTAL VOCS	0.1		0.1	☑	8	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 4 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

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B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/6/2022 (mm/dd/yyyy) To: 6/15/2023 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☐ ii. Quarterly
  - ☐ iii. Annually
  - ☑ iv. Other Describe: 60 TUFTS ST QUARTERLY, OTHER PROPERTIES ANNUALLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: _____ b. Grade: _____
c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required
☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 176 b. GW Recovered (gals): _____
c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____
e. Avg. Soil Gas Recovery Rate (scfm): 106 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.
☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)
☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)
☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☑ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 1 b. Total Number of Days of Unscheduled Shutdowns: 182

c. Reason(s) for Unscheduled Shutdowns: 9 KNOWLTON-182 DAYS, 60 TUFTS STREET-6 DAYS (SEE ATTACHED)

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharge

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

DRAFT COPY

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☐ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

SEE ATTACHED.

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 5 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☑ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☑ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☐ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

DRAFT COPY

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/16/2022 (mm/dd/yyyy) To: 6/15/2023 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☐ ii. Quarterly
- ☑ iii. Annually
- ☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☐ 2. MCP Performance Standard MCP Citations(s):

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: _____ b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): _____ f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

DRAFT COPY

☐ b. No Further Effluent Discharge

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☑ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Additional supporting information for:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

BWSC-108, Section B, Question 15 and 18: Submit a **Phase V Status Report and Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).

The Phase V Status Report and Status Report to maintain ROS has been submitted via eDEP, Transmittal No. 1587049, as “Phase V Status Report No. 24 and Remedial Monitoring Report No. 39,” RTN 3-23246, 50 Tufts Street, Somerville, Massachusetts, dated August 2, 2023.

Additional supporting information for:

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (Subpart H)

BWSC-108A, Remedial System 4 of 5, Section 4, Question 1c: **SHUTDOWNS OF ACTIVE REMEIDAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM:** Reason(s) for Unscheduled Shutdowns

The owner of 9 Knowlton Street informed GEI that they do not want to run the fan, the total number of shutdown days during this reporting period was 182.

The system at 60 Tufts Street was shut down for approximately 6 days during this reporting period. GEI restarted the system on February 21, 2023.

Additional supporting information for:

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (Subpart H)

BWSC-108A, Remedial System 5 of 5, Section G, Question 5: **SUMMARY STATEMENTS:** Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

The Summary Statement for BWSC-108A Remedial System 5 of 5 has been submitted via eDEP, Transmittal No. 1587049 as part of the “Phase V Status Report No. 24 and Remedial Monitoring Report No. 39,” RTN 3-23246, 50 Tufts Street, Somerville, Massachusetts, dated August 2, 2023.

Appendix B

Property Owner Notification Letters

Consulting Engineers and Scientists

January 10, 2023
Project 04516-3

Robert Schofield
9 Knowlton Street
Somerville, MA 02145

Dear Mr. Schofield:

Re: Indoor Air and Soil Vapor Sampling
9 Knowlton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air sampling at your property. Following the indoor air and soil vapor sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph D. Roman, LSP
Environmental Division Manager

MEF/JDR:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Knowlton Street\9 Knowlton\Indoor Air Sampling Results and NOS\2023 January IA Sampling\NOS Letter\9 Knowlton 01-23 SV IA NOS Ltr.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Schofield

2. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~ has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

February 9, 2023
Project 04516-3

Robert Schofield
9 Kowlton Street
Somerville, MA 02145-4318

Dear Mr. Schofield:

Re: Soil Vapor and Indoor Air Sampling Results
9 Knowlton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, GEI Consultants, Inc. is evaluating whether continued operation of the active exposure pathway mitigation measure (AEPMM) at your property at 9 Knowlton Street is required to maintain a level of No Significant Risk (NSR). As part of this evaluation, we collected two indoor air samples and two soil vapor samples at your property on January 5, 2023.

On May 11, 2022, a shutdown valve was installed on the sub-slab depressurization system (SSDS) riser pipe. To simulate conditions without operation of the AEPMM, the shutdown valve was closed for approximately one week prior to collecting the indoor air and soil vapor samples.

On January 5, 2023, one indoor air sample was collected in the basement and one sample was collected on the first floor. The samples were collected over a 24-hour period. Attached is a summary table of the chemicals detected in the indoor air samples along with the previous sampling results (Table 1), and the laboratory data sheets for the recent sampling.

Tetrachloroethylene (PCE) was detected in both samples. Concentrations of PCE were detected at 1.89 micrograms per meter cubed ($\mu g/m^3$) on the first floor and 3.00 $\mu g/m^3$ in the basement. No other chlorinated volatile organic compounds (VOCs) were detected in the samples at concentrations above the laboratory reporting limits.

On January 5, 2023, GEI installed one additional soil vapor monitoring point (SS2) through the building slab of your basement. Following the installation of the soil vapor point, two soil vapor samples were collected from beneath the building slab of your basement. The samples were collected over 1 hour. Attached is a summary table of the chemicals detected in the soil vapor samples along with the previous sampling results (Table 2), and the laboratory data sheets for the recent sampling. PCE was detected at a concentration of 4.89 $\mu g/m^3$ and 7.32 $\mu g/m^3$.

After the air sampling was completed, we opened the shutdown valve and reactivated the fan.

The June 2022 and January 2023 indoor air sampling results indicate that a condition of NSR exists while the fan is deactivated, but additional evaluation is required. We would like to collect additional rounds of indoor air data to continue to evaluate if the AEPMM is required to maintain a level of NSR. The next round of indoor air sampling will be conducted in March 2023.

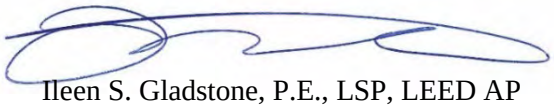
GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403(9) and 40.1404). The property owner also may request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any questions regarding the sampling results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph Roman, LSP
Environmental Division Manager

MEF/JDR/ISG
Enclosures
c: Catherine Malagrida, UniFirst Corporation
MassDEP

Table 1. Chemical Testing Results - Indoor Air
9 Knowlton Street
Somerville, Massachusetts

Sample Location:	9 Knowlton Street											
Sample Name:	045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B	
Sample Date:	5/21/2007		5/21/2007		6/8/2022		6/8/2022		1/5/2023		1/5/2023	
Collected by:	GEI		GEI		GEI		GEI		GEI		GEI	
Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte												
Volatile Organic Compounds (VOCs)												
cis-1,2-Dichloroethylene	< 0.79	< 0.20	1.5	0.39	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)	94.3 G	13.9 G	366 G	54.0 G	0.319	0.047	4.46	0.657	1.89	0.278	3.00	0.442
1,1,1-Trichloroethane	1.3	0.23	4.4	0.81	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)	1.3	0.24	3.9	0.72	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Highlighted sample indicates most recent sampling round.

Qualifying Note:

G The result is estimated due to duplicate precision outside control limits.

J The reported result is below the laboratory reporting limit and is estimated.

Table 2. Chemical Testing Results - Sub-Slab Soil Vapor
9 Knowlton Street
Somerville, Massachusetts

Sample Location:		9 Knowlton Street									
Sample Name:		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS2	
Sample Date:		2/28/07		11/30/09		6/23/22		1/5/23		1/5/23	
Collected By:		GEI		GEI		GEI		GEI		GEI	
Units:		µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**										
Volatile Organic Compounds (VOCs)	TO-15										
Carbon tetrachloride		2.3	0.37	2.3	0.37	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		199	29.3	206	30.4	9.49	1.4	4.89	0.721	7.32	1.08
1,1,1-Trichloroethane		0.76 J	0.14 J	< 1.1	< 0.20	<1.09	<0.200	<0.154	<0.028	<0.109	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301610
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301610-01
Client ID: 045163-9KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 16:01
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/12/23 23:00
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.278	0.020	--	1.89	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301610
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301610-02
Client ID: 045163-9KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 15:58
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/12/23 23:38
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.442	0.020	--	3.00	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301620
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301620-01 D
Client ID: 045163-9KNOW-SS1
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 18:00
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 02:28
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.028	--	ND	0.072	--		1.417
1,1-Dichloroethene	ND	0.028	--	ND	0.112	--		1.417
trans-1,2-Dichloroethene	ND	0.028	--	ND	0.112	--		1.417
1,1-Dichloroethane	ND	0.028	--	ND	0.115	--		1.417
cis-1,2-Dichloroethene	ND	0.028	--	ND	0.112	--		1.417
1,1,1-Trichloroethane	ND	0.028	--	ND	0.154	--		1.417
Trichloroethene	ND	0.028	--	ND	0.152	--		1.417
1,1,2-Trichloroethane	ND	0.028	--	ND	0.154	--		1.417
Tetrachloroethene	0.721	0.028	--	4.89	0.192	--		1.417
1,1,2,2-Tetrachloroethane	ND	0.028	--	ND	0.194	--		1.417

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301620
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301620-02
Client ID: 045163-9KNOW-SS2
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 18:02
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 03:08
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	1.08	0.020	--	7.32	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	99		60-140

Consulting Engineers and Scientists

March 10, 2023
Project 04516-3

Robert Schofield
9 Knowlton Street
Somerville, MA 02145

Dear Mr. Schofield:

Re: Indoor Air and Soil Vapor Sampling
9 Knowlton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air and soil vapor sampling at your property. Prior to the indoor air and soil vapor sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph D. Roman, LSP
Environmental Division Manager

MEF/JDR:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Knowlton Street\9 Knowlton\Indoor Air Sampling Results and NOS\2023 March IA Sampling\NOS Letter\9 Knowlton 03-23 SV IA NOS Ltr.docx

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Robert Schofield

2. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

May 3, 2023
Project 045163

Robert Schofield
9 Kowlton Street
Somerville, MA 02145-4318

Dear Mr. Schofield:

Re: Soil Vapor and Indoor Air Sampling Results
9 Knowlton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, GEI Consultants, Inc. is evaluating whether continued operation of the active exposure pathway mitigation measure (AEPMM) at your property at 9 Knowlton Street is required to maintain a level of No Significant Risk (NSR). As part of this evaluation, we collected two indoor air samples and two soil vapor samples at your property on March 23, 2023.

On May 11, 2022, a shutdown valve was installed on the sub-slab depressurization system (SSDS) riser pipe. To simulate conditions without operation of the AEPMM, the shutdown valve was closed for approximately one week prior to collecting the indoor air and soil vapor samples.

On March 23, 2023, one indoor air sample was collected in the basement and one sample was collected on the first floor. The samples were collected over a 24-hour period. Attached is a summary table of the chemicals detected in the indoor air samples along with the previous sampling results (Table 1), and the laboratory data sheets for the recent sampling.

Tetrachloroethylene (PCE) was detected in both samples. Concentrations of PCE were detected at 1.93 micrograms per meter cubed ($\mu g/m^3$) on the first floor and 1.57 $\mu g/m^3$ in the basement. No other chlorinated volatile organic compounds (VOCs) were detected in the samples at concentrations above the laboratory reporting limits.

During our previous sampling round on January 5, 2023, GEI installed one additional soil vapor monitoring point (SS2) through the building slab of your basement. Two soil vapor samples were collected from beneath the building slab of your basement. The samples were collected over 1 hour. Attached is a summary table of the chemicals detected in the soil vapor samples along with the previous sampling results (Table 2), and the laboratory data sheets for the recent sampling. PCE was detected at a concentration of 6.98 $\mu g/m^3$ and 13.0 $\mu g/m^3$. Additionally, trichloroethylene (TCE) was detected at a concentration of 0.188 $\mu g/m^3$ in SS1.

After the air sampling was completed, we opened the shutdown valve and reactivated the fan.

GEI performed a risk assessment screening using the March 23, 2023, indoor air results in accordance with MassDEP protocols. The risk assessment screening demonstrates that the indoor air concentrations pose NSR to a residential occupant based on a conservative exposure duration of 24-hours per day.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

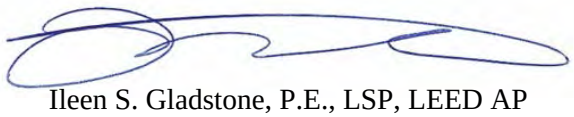
This is the third time that AEPMM shutdown testing has been performed in 2022 and 2023. Based on the results of the March 2023 soil vapor and indoor air testing, and the previous AEPMM shutdown testing, no additional sampling is required at this time. GEI next will perform a full risk assessment of the property in order to evaluate whether the AEPMM can be shut down permanently.

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403(9) and 40.1404). The property owner also may request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any questions regarding the sampling results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
Enclosures
c: Catherine Malagrida, UniFirst Corporation
MassDEP (via Status Report)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Robert Schofield

2. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~ has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling ~~will be~~/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Table 1. Chemical Testing Results - Indoor Air
9 Knowlton Street
Somerville, Massachusetts

Sample Location:	9 Knowlton Street															
Sample Name:	045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B	
Sample Date:	5/21/2007		5/21/2007		6/8/2022		6/8/2022		1/5/2023		1/5/2023		3/23/2023		3/23/2023	
Collected by:	GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte																
Volatile Organic Compounds (VOCs)																
cis-1,2-Dichloroethylene	< 0.79	< 0.20	1.5	0.39	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)	94.3 G	13.9 G	366 G	54.0 G	0.319	0.047	4.46	0.657	1.89	0.278	3.00	0.442	1.57	0.231	1.93	0.285
1,1,1-Trichloroethane	1.3	0.23	4.4	0.81	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)	1.3	0.24	3.9	0.72	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= Not Tested
6. Highlighted sample indicates most recent sampling round.

Qualifying Note:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2. Chemical Testing Results - Sub-Slab Soil Vapor
9 Knowlton Street
Somerville, Massachusetts

Sample Location:		9 Knowlton Street													
Sample Name:		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS2		9 KNOW-SS1		9 KNOW-SS2	
Sample Date:		2/28/07		11/30/09		6/23/22		1/5/23		1/5/23		3/23/23		3/23/23	
Collected By:		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
Units:		µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**														
Volatile Organic Compounds (VOCs)	TO-15														
Carbon tetrachloride		2.3	0.37	2.3	0.37	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		199	29.3	206	30.4	9.49	1.4	4.89	0.721	7.32	1.08	6.98	1.03	13.0	1.92
1,1,1-Trichloroethane		0.76 J	0.14 J	< 1.1	< 0.20	<1.09	<0.200	<0.154	<0.028	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		<1.1	<0.20	<1.1	< 0.20	<1.07	<0.200	<0.152	<0.028	<0.107	<0.020	0.188	0.035	<0.107	<0.020

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= Not Tested
6. Highlighted sample indicates most recent sampling round.

Qualifying Note:
J The reported result is below the laboratory reporting limit and is estimated.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-01
Client ID: 045163-9KNOW-1
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 15:56
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 16:46
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.231	0.020	--	1.57	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-02
Client ID: 045163-9KNOW-B
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 16:05
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 17:24
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.285	0.020	--	1.93	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-03
Client ID: 045163-9KNOW-SS1
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 18:30
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 18:02
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	0.035	0.020	--	0.188	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	1.03	0.020	--	6.98	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-04
Client ID: 045163-9KNOW-SS2
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 17:19
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 18:41
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	1.92	0.020	--	13.0	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140

Consulting Engineers and Scientists

January 10, 2023
Project 04516-3

Margarita Alvarez
Robert Curley
69 Mount Vernon Street, Unit 2
Somerville, MA 02145-4318

Dear Dr. Alvarez and Mr. Curley:

Re: Indoor Air and Soil Vapor Sampling
13 Knowlton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air sampling at your property. Following indoor air and soil vapor sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph D. Roman, LSP
Environmental Division Manager

MEF/JDR:jam
Enclosure

c: Catherine Malagrida, UniFirst Corporation
MassDEP (as part of Status Report)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Dr. Alvarez and Mr. Curley
2. Street Address: 69 Mount Vernon Street, Unit 2

City/Town: Somerville, MA Zip Code: 02145-4318

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 13 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

April 10, 2023
Project 04516-3

Margarita Alvarez
Robert Curley
13 Knowlton Street
Somerville, MA 02145-4318

Dear Dr. Alvarez and Mr. Curley:

Re: Indoor Air and Soil Vapor Sampling Results
13 Knowlton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, GEI Consultants, Inc. is evaluating whether continued operation of the active exposure pathway mitigation measure (AEPMM) at your property at 13 Knowlton Street is required to maintain a level of No Significant Risk (NSR). As part of this evaluation, we collected two indoor air samples and one sub-slab soil vapor sample at your property on January 10, 2023.

The sub-slab depressurization system (SSDS) at your property is equipped with a shutdown valve on the riser pipe. To simulate conditions without operation of the AEPMM, the shutdown valve was closed for one week prior to collecting the indoor air and soil vapor samples.

On January 10, 2023, one indoor air sample was collected in the basement and one sample was collected on the first floor. The samples were collected over a 24-hour period. Attached is a summary table of the chemicals detected in the indoor air samples along with the previous sampling results (Table 1), and the laboratory data sheets for the recent sampling.

Tetrachloroethylene (PCE) was detected in both samples. Concentrations of PCE were detected at 0.427 micrograms per meter cubed ($\mu g/m^3$) on the first floor and 1.29 $\mu g/m^3$ in the basement. Both results are below MassDEP's residential threshold value for PCE. No other chlorinated volatile organic compounds (VOCs) were detected in the samples at concentrations above the laboratory reporting limits.

On January 10, 2023, GEI installed one additional soil vapor monitoring point (SS2) through the building slab of your basement. Following the installation of the soil vapor point, two soil vapor samples were collected from beneath the building slab of your basement. Attached is a summary table of the chemical results for the soil vapor sample (Table 2) and the laboratory data sheets for the recent sampling. Concentrations of PCE were detected at 0.488 $\mu g/m^3$ in SS1 and 5.27 $\mu g/m^3$ in SS2. No other chlorinated VOCs were detected in the sample above the laboratory reporting limits.

After the air sampling was completed, we opened the shutdown valve and reactivated the fan.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

GEI performed a risk assessment screening using the January 10, 2023, indoor air results in accordance with MassDEP protocols. The risk assessment screening demonstrates that the indoor air concentrations pose NSR to a residential occupant based on a conservative exposure duration of 24-hours per day.

This is the fifth time that AEPMM shutdown testing has been performed since 2016. Based on the results of the January 2023 soil vapor and indoor air testing, and also the previous AEPMM shutdown testing, no additional sampling is required at this time. GEI next will perform a full risk assessment of the property in order to evaluate whether the AEPMM can be shut down permanently.

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403(9) and 40.1404). The property owner also may request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any questions regarding the sampling results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/CC/ISG:jam
Enclosures
c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

Table 1. Chemical Testing Results - Pre- and Post-EPMM Installation Indoor Air
13 Knowlton Street
Somerville, Massachusetts

Sample Location:		13 Knowlton Street Pre-EPMM						13 Knowlton Street Post-EPMM																							
Sample Name:		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B	
Sample Date:		8/28/07		8/28/07		11/7/07		3/3/10		3/3/10		2/1/11		2/1/11		12/21/16		12/21/16		2/13/18		2/13/18		3/12/19		3/12/19		11/22/19		11/22/19		1/10/23		1/10/23	
Collected By:		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																																
Volatile Organic Compounds (VOCs)	TO-15																																
Carbon tetrachloride		0.69 J	0.11 J	0.60 J	0.096 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		3.1	0.77	< 0.81	< 0.20	1.1	0.27	3.6	0.89	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	<0.081	<0.020	<0.081	NT	NT	NT	NT	NT	0.134	0.033	<0.081	<0.020	NT	NT	NT	NT
Tetrachloroethylene (PCE)		6.0	0.89	4.5	0.67	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.32	0.047	3.8	0.56	0.156	0.023	1.71	0.252	0.210	0.031	4.70	0.693	0.353	0.052	3.06	0.451	0.427	0.063	1.29	0.190

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. The samples collected after November 2007 were collected over a 24-hour period ending on the date shown.
6. NT= Not Tested
7. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2. Chemical Testing Results - Pre and Post-EPMM Installation Soil Vapor
13 Knowlton Street
Somerville, Massachusetts

Location Name:		13 Knowlton Street											
Sample Name:		13 KNOW-SS1		13KNOW-SS1		13KNOW-SS1		13KNOW-SS1		13KNOW-SS1		13KNOW-SS2	
Sample Date:		6/4/2007		12/22/2016		3/12/2019		11/22/2019		1/10/2023		1/10/2023	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon Tetrachloride		0.82 J	0.13 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethene (PCE)		4.5	0.67	1.0 J	0.15 J	1.92	0.283	<1.36	<0.200	0.488	0.072	5.27	0.777

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= Not Tested
6. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301612
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301612-01
Client ID: 045163-13KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 12:26
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/13/23 00:17
Analyst: RAY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.063	0.020	--	0.427	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301612-02
Client ID: 045163-13KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 12:15
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/13/23 01:33
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.190	0.020	--	1.29	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301614
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301614-01
Client ID: 045163-13KNOW-SS1
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 14:44
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 03:48
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.072	0.020	--	0.488	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	101		60-140
bromochloromethane	103		60-140
chlorobenzene-d5	101		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301614
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301614-02
Client ID: 045163-13KNOW-SS2
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 14:45
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 04:27
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.777	0.020	--	5.27	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	97		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Consulting Engineers and Scientists

March 3, 2023

CERTIFIED MAIL

Randal Isaac
88 Cross Street
Somerville, MA 02145

Dear Mr. Isaac:

This will confirm your conversation with Ileen Gladstone of GEI Consultants, Inc. earlier today. As she explained, your property at 10 Morton Street, Somerville, MA has a system that inhibits vapors from intruding through the foundation of the building and is subject to certain conditions and restrictions that affect the use of the property, including the basement. The conditions and restrictions are set out in a Notice of Activity and Use Limitation and a Grant of Remediation Easement and Restrictions, both of which are on record at the Middlesex South Registry of Deeds. Copies of those documents are also enclosed with this letter.

As Ileen also explained, GEI and UniFirst are willing to work with you to possibly remove the existing conditions and restrictions on your property or modify the existing system so that the basement may be safely renovated. The first step is an initial round of testing that will be scheduled for the week of March 6, 2023. We will share the results and discuss next steps with you once the results are available, generally ten to fourteen days after testing.

If you have any questions, please contact Ileen at 781-721-4012 or igladstone@geiconsultants.com or Chris Coner at 781-721-4135 or cconer@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen Gladstone, P.E., LSP, LEED AP
Senior Vice President

Chris Coner, CHMM
Project Manager

Enclosures

20 0

Bk: 54007 Pg: 227 Doc: NOT
Page: 1 of 20 12/16/2009 03:05 PM

Form 1075

NOTICE OF ACTIVITY AND USE LIMITATION
M.G.L. c. 21E, § 6 and 310 CMR 40.0000

Disposal Site Name: 50 Tufts Street, Somerville, Massachusetts
DEP Release Tracking No.(s): 3-23246

This Notice of Activity and Use Limitation ("Notice") is made as of this 16th day of December, 2009, by James J. Flint and Catherine J. Flint of 10 Morton Street, Somerville, Massachusetts, together with their successors and assigns (collectively "Owner").

WITNESSETH:

WHEREAS, James J. Flint and Catherine J. Flint are the owners in fee simple of that certain parcel of land located at 10 Morton Street in Somerville, Middlesex County, Massachusetts with the buildings and improvements thereon, pursuant to a deed recorded with the Middlesex South District Registry of Deeds in Book 11248, Page 095;

WHEREAS, said parcel of land, which is more particularly bounded and described in Exhibit A, attached hereto and made a part hereof ("Property") is subject to this Notice of Activity and Use Limitation. The Property is shown on a plan recorded in the Middlesex South District Registry of Deeds in Plan Book 64, Plan 34;

WHEREAS, the Property comprises part of a disposal site as the result of a release of oil and/or hazardous material. Exhibit B is a sketch plan showing the relationship of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for a Portion of the Disposal Site in accordance with M.G.L. c. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in soil and/or (b) the restriction of certain activities occurring in, on, through, over, or under the Property. The basis for such restrictions is set forth in an Activity and Use Limitation Opinion ("AUL Opinion"), dated December 11, 2009, (which is attached hereto as Exhibit C and made a part hereof);

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in said AUL Opinion are as follows:

1. Activities and Uses Consistent with the AUL Opinion. The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare, or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Property:

Goodwin Procter LLP
Exchange Place
Boston, MA 02109

(i) Any use of the existing building located on the Property, including use of the building as a residence, so long as the vapor barrier and venting system comprising the Exposure Pathway Elimination Measure ("EPEM") are maintained and, if an electric fan is added to the EPEM, such fan operates continuously;

(ii) Activities and uses which are not identified by this Notice as being inconsistent with maintaining a condition of No Significant Risk;

(iii) Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare, or the environment than the activities and uses set forth in this Paragraph; and

(iv) Such other activities and uses not identified as being Activities and Uses Inconsistent with the AUL.

2. Activities and Uses Inconsistent with the AUL Opinion. Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare, or the environment or in a substantial hazard, are as follows:

(i) In the basement, removal or damage of the concrete floor, the overlying epoxy coating, the vapor barrier, the sub-slab venting system, and/or the protective stucco wall finish;

(ii) In the basement, any activities which may damage and/or compromise the concrete floor, the overlying epoxy coating, the vapor barrier, the sub-slab venting system, and/or the protective stucco wall finish;

(iii) In the event an electric fan is added to the EPEM, removal or damage of such fan;

(iv) In the event an electric fan is added to the EPEM, shutting down, turning off, or removing electrical power to the fan, or any other activity that would make such fan inoperable;

(v) Any activities which may damage and/or compromise the ventilation piping located on the exterior of the building; and

(vi) Construction of any occupied structure at the Property without the installation of an EPEM and subsequent indoor air sampling to confirm its effectiveness in preventing or mitigating vapor intrusion into the structure.

3. Obligations and Conditions Set Forth in the AUL Opinion. Obligations and/or conditions to be undertaken and/or maintained at the Property to maintain a

condition of No Significant Risk as set forth in the AUL Opinion shall include the following:

(i) In the basement, the integrity of the concrete floor, the overlying epoxy floor coating, the vapor barrier, the sub-slab venting system, and the protective stucco wall finish of the existing building must be preserved and the elements of the EPEM must not be damaged or altered;

(ii) On the exterior of the building, the integrity of the ventilation piping must be preserved, and the elements of the piping must not be damaged or altered;

(iii) In the event an electric fan is added to the EPEM, power must be maintained to such fan and the fan may not be shut down;

(iv) In the event an electric fan is added to the EPEM, notification must be provided to UniFirst Corporation, together with its successors and assigns and/or its agents, if such fan becomes inoperable, and access must be provided to UniFirst Corporation, together with its successors and assigns and/or its agents, to repair or replace the fan as necessary;

(v) Access must be provided, at least annually, to UniFirst Corporation, together with its successors and assigns and/or its agents, to inspect the EPEM for damage and, to the extent necessary to continue the EPEM's effectiveness in preventing or mitigating vapor intrusion into the building, to conduct indoor air testing and/or repair or replace the vapor barrier, venting system, and/or electric fan (to the extent such a fan is added to the EPEM); and

(vi) Any future construction of an occupied structure at the Property must include the installation of an EPEM to prevent or mitigate vapor intrusion into the structure. The design of the EPEM must be incorporated into the design and construction of the future structure and must be evaluated by an LSP. Follow-up indoor air testing must be conducted to confirm the effectiveness of the EPEM in preventing or mitigating vapor intrusion into the structure.

4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by an LSP who shall render an Opinion, in accordance with 310 CMR 40.1080 *et seq.*, as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare, or the environment. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

5. Violation of a Response Action Outcome. The activities, uses, and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by an LSP in accordance with 310 CMR 40.1080 *et seq.*, and without additional response actions, if necessary, to achieve or maintain a condition of No Significant Risk or to eliminate substantial hazards.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by an LSP in accordance with 310 CMR 40.1080 *et seq.*, the owner or operator of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer. This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements, or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed.

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned LSP, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).

WITNESS the execution hereof under seal this 14 day of October, 2009.

James J. Flint

Catherine J. Flint

Form 1075
Notice Of Activity And Use Limitation
M.G.L. c. 21E, § 6 and 310 CMR 40.0000

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss October 14, 2009

On this 14 day of October, 2009, before me, the undersigned notary public, personally appeared Catherine Flint, proved to me through satisfactory evidence of identification, which were mass. drivers license to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Ethel Dorothy Martinez
Notary Public
My Commission Expires:

OFFICIAL SEAL
ETHEL DOROTHY MARTINEZ
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
My Comm Expires Aug. 12, 2016

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss October 14, 2009

On this 14 day of October, 2009, before me, the undersigned notary public, personally appeared James J. Flint, proved to me through satisfactory evidence of identification, which were mass. drivers license to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Ethel Dorothy Martinez
Notary Public
My Commission Expires:

OFFICIAL SEAL
ETHEL DOROTHY MARTINEZ
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
My Comm Expires Aug. 12, 2016

OFFICIAL SEAL
ETHEL DOROTHY MARTINEZ
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
My Comm Expires Aug. 12, 2016

The undersigned LSP hereby certifies that she executed the foregoing Activity and Use Limitation Opinion attached hereto as Exhibit C and made a part hereof and that in her Opinion this Notice of Activity and Use Limitation is consistent with the terms set forth in said Activity and Use Limitation Opinion.

Date: 12/11/09

Ileen S. Gladstone, P.E., LSP, LEED AP
[LSP Seal]

ILEEN S. GLADSTONE
No. 9719
REGISTERED
LICENSED SITE PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS

Massachusetts, ss
Middlesex County

December 11, 2009

On this 11th day of December, 2009, before me, the undersigned notary public, personally appeared Ellen Gladstone, proved to me through satisfactory evidence of identification, which were personally known, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Roy C Cunningham Jr.
Notary Public
My Commission Expires: June 10, 2016

Upon recording, return to:

James J. Flint and Catherine J. Flint
10 Morton Street
Somerville, MA 02145-4206

Exhibit A

Metes and Bounds Description of AUL Area

NOV -4-66 PM 1:56 ZZORE ***7.50

cw 750

BK 11848 PG095

I, Thomas J. Carney, Jr.

Administrator of the Estate of Thomas J. Carney, late of Somerville, Middlesex County

by the power conferred by the Middlesex Probate Court in the Estate of Thomas J. Carney,

Middlesex Probate Court Docket No. 405992 by decree dated October 27, 1966,

and every other power,

for Thirteen thousand and no/100 ($13,000.00) Dollars

paid, grant to James J. Flint and Catherine J. Flint, husband and wife as tenants by the entirety, both of Cambridge, Middlesex County

the land with the buildings thereon in said Somerville being lot numbered 4 on a plan of land entitled "Plan of Building Lots in Somerville, Massachusetts, owned by Charles Robinson" dated March 15, 1890, Geo. Kimball, Civil Engineer, recorded with Middlesex South District Deeds, Book of Plans 64, plan 34, bounded and described as follows:

Northeasterly on Morton Street, forty feet;

Southeasterly by lot numbered 3 on said plan, eighty feet;

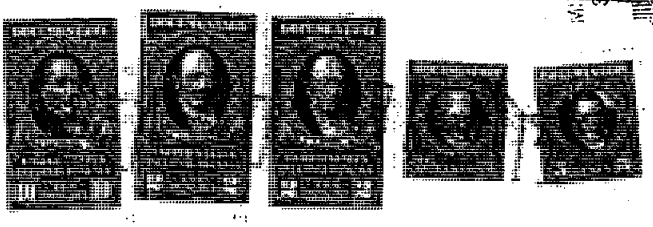
Southwesterly by land formerly of Robinson forty feet;

Northwesterly by lot numbered 5 on said plan, eighty feet.

Containing 3200 square feet.

Being the same premises conveyed to Thomas J. Carney and Mary A. Carney by Deed dated, May 28, 1920, and recorded in the Middlesex South District Registry of Deeds, Book 4356, Page 328.

COMMONWEALTH OF MASSACHUSETTS
MIDDLESEX SOUTH
DEEDS & EXCISE
RECEIVED NOV 4 1966
1475



Witness my hand and seal this Fourth day of November, 19 66

Thomas J. Carney Jr.

Thomas J. Carney, Jr., Administrator of Estate of Thomas J. Carney

The Commonwealth of Massachusetts

Middlesex, ss. November 4, 19 66

Then personally appeared the above-named Thomas J. Carney, Jr., Administrator of the Estate of Thomas J. Carney,

and acknowledged the foregoing instrument to be his free act and deed, before me

Charles J. Abizaid

Charles J. Abizaid
Notary Public

My commission expires June 13, 1970

13

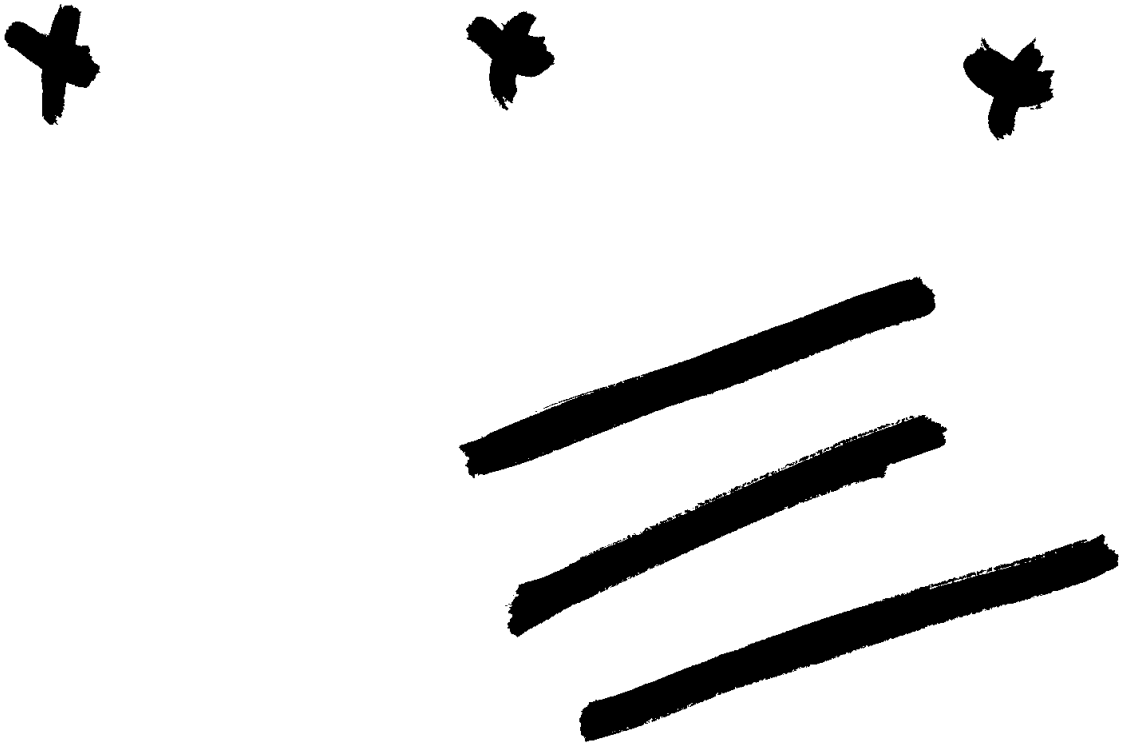
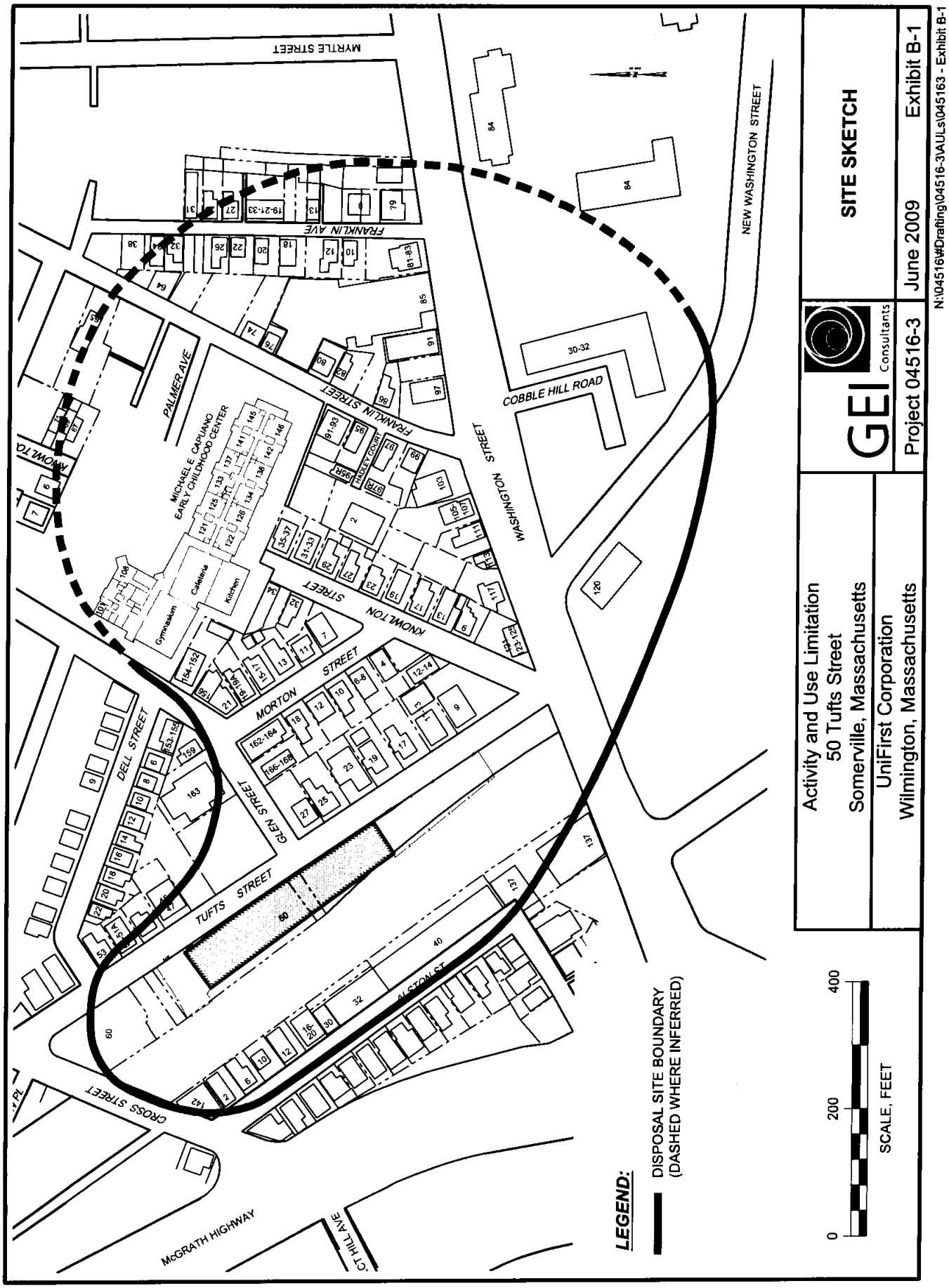
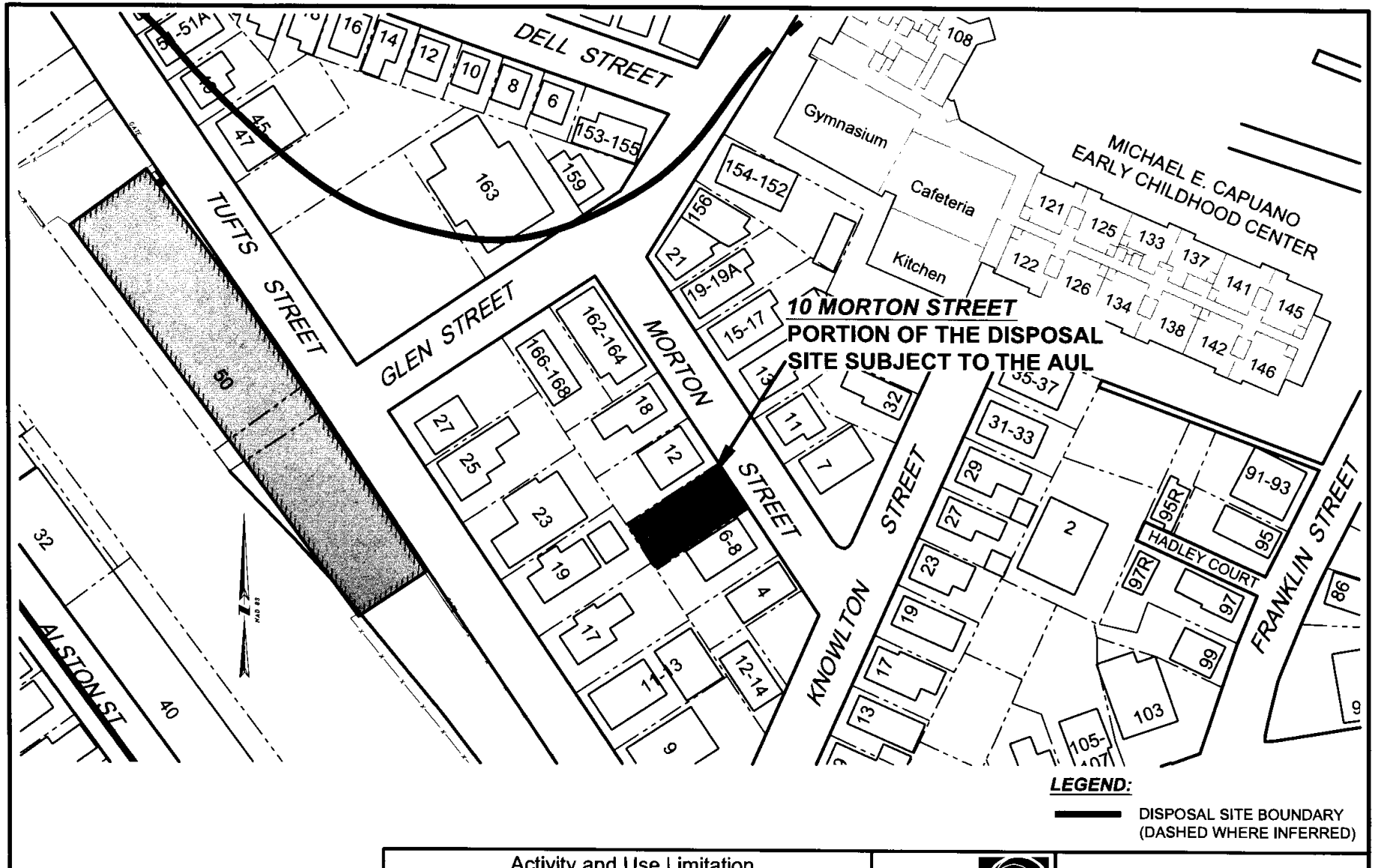


Exhibit B

Sketch Plan of Disposal Site Boundary (Exhibit B-1)
Sketch Plan of AUL Area (Exhibit B-2)


MYRTLE STREET
FRANKLIN AVE
PALMER AVE
FRANKLIN STREET
MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER
Gymnasium
Cafeteria
Kitchen
KNOWLTON STREET
MORTON STREET
DELL STREET
GLEN ST
TUFTS STREET
CROSS STREET
McGRATH HIGHWAY
CT. HILL AVE
WASHINGTON STREET
NEW WASHINGTON STREET
COBBLE HILL ROAD
LEGEND:
DISPOSAL SITE BOUNDARY
(DASHED WHERE INFERRED)
0
200
400
SCALE, FEET
Activity and Use Limitation
50 Tufts Street
Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts
GEI Consultants
SITE SKETCH
Project 04516-3
June 2009
Exhibit B-1
N:\04516\#Drafting\04516-3\AULs\045163 - Exhibit B-1



Activity and Use Limitation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**SITE SKETCH**	
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	November 2009	Exhibit B-2

N:\04516\#Drafting\04516-3\AULs\045163 - 10 MORTON

Bk: 54007 Pg: 237

Exhibit C

LSP AUL Opinion

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number
3 - 23246

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: 50 TUFTS ST & PROP ACROSS THE ST
2. Street Address: 50 TUFTS ST
3. City/Town: SOMERVILLE 4. ZIP Code: 02145-4129

B. THIS FORM IS BEING USED TO: (check one)

- [x] 1. Provide the LSP Opinion for a **Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1074.
- [ ] 2. Provide the LSP Opinion for an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement,** pursuant to 310 CMR 40.1080. Include BWSC113A as an attachment to BWSC113. Section A and C do not need to be completed.
- [ ] 3. Provide the LSP Opinion for an **Amended Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1081(4).
- [ ] 4. Provide the LSP Opinion for a **Partial Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(3) .
- [ ] 5. Provide the LSP Opinion for a **Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(1)(d).
- [ ] 6. Provide the LSP Opinion for a **Grant of Environmental Restriction**, pursuant to 310 CMR 40.1071.
- [ ] 7. Provide the LSP Opinion for an **Amendment of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1081(3).
- [ ] 8. Provide the LSP Opinion for a **Partial Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(2).
- [ ] 9. Provide the LSP Opinion for a **Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(1)(c).
- [ ] 10. Provide the LSP Opinion for a **Confirmatory Activity and Use Limitation**, pursuant to 310 CMR 40.1085(4).

(Unless otherwise noted above, all sections of this form (BWSC113A) must be completely filled out, printed, stamped, signed with black ink and attached as an exhibit to the AUL Document to be recorded and/or registered with the Registry of Deeds and/or Land Registration Office.)

C. AUL INFORMATION:

1. Is the address of the property subject to AUL different from the disposal site address listed above?

[ ] a. No [x] b. Yes If yes, then fill out address section below.

2. Street Address: 10 MORTON STREET
3. City/Town: SOMERVILLE 4. ZIP Code: 02145-4206

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number
3 - 23246

D. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Notice of Activity and Use Limitation*** *is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1074;

> *if Section B indicates that an* ***Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement*** is being submitted, this evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080;

> *if Section B indicates that an* ***Amended Notice of Activity and Use Limitation or Amendment to a Grant of Environmental Restriction*** *is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 40.1081;

> *if Section B indicates that a* ***Termination or a Partial Termination of a Notice of Activity and Use Limitation, or a Release or Partial Release of a Grant of Environmental Restriction*** *is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083;

> *if Section B indicates that a* ***Grant of Environmental Restriction*** *is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1071;

> *if Section B indicates that a* ***Confirmatory Activity and Use Limitation*** *is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1085(4);

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: (781) 721-4012 5. Ext.: 6. FAX:

7. Signature: 8. Date: 12/11/09 mm/dd/yyyy

9. LSP Stamp:

EXHIBIT C

December 11, 2009

Reference: Activity and Use Limitation Opinion
10 Morton Street
Somerville, Massachusetts
DEP RTN 3-23246

Introduction

This Licensed Site Professional (LSP) Opinion for a Notice of Activity and Use Limitation (AUL) was prepared by GEI Consultants, Inc. (GEI) for the property located at 10 Morton Street in Somerville, Massachusetts (the Property). The Property comprises a portion of the 50 Tufts Street disposal site (the Site) assigned Release Tracking Number (RTN) 3-23246 by the Massachusetts Department of Environmental Protection (DEP). In 2002, a historical release of chlorinated volatile organic compounds (VOCs) to soil and groundwater at the Site was reported to the DEP. Subsequent investigations at the Site identified chlorinated VOCs in indoor air at the Site, and in groundwater and indoor air at residential properties in the vicinity of the 50 Tufts Street property, including 10 Morton Street. The Property and the 50 Tufts Street property are shown on Fig. 1. UniFirst Corporation of Wilmington, Massachusetts is conducting response actions at the Site.

This LSP Opinion was prepared in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.1074) and the DEP Guidance on Implementing AULs (May 1999). This AUL Opinion applies to the entire Property, as defined in Exhibit A and indicated on Exhibit B of the AUL.

This LSP Opinion provides the following information:

- Why an AUL is appropriate to achieve and/or maintain a condition of No Significant Risk;
- Activities and uses to be prohibited and/or limited;
- Activities and uses to be permitted; and
- Obligations and conditions necessary to meet the objectives of the AUL.

Background

The Property is located in a commercial/residential zoning district, and fronts Morton Street to the northeast, and is bounded by residential property to the north, south, and west. The Property is located within the Site boundary associated with a historic release of chlorinated VOCs to soil and groundwater at 50 Tufts Street, located southwest of the Property across Tufts Street. From approximately 1955 to approximately 2002, 50 Tufts Street was used for storage and distribution of industrial chemicals, laundry supplies, and dry cleaning supplies. Chemicals stored at and delivered to and from 50 Tufts Street included chlorinated solvents. These chlorinated VOCs – particularly tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at 50 Tufts Street.

Based on the results of assessments conducted to date, the Site includes the 50 Tufts Street property, together with portions of properties in the neighborhood to the east and west. Based on multiple rounds of groundwater measurements, the general direction of groundwater flow at the Site is to the northeast across Tufts Street towards Knowlton and Franklin Streets.

Based on groundwater, soil, soil vapor, and indoor air sampling results, GEI identified a several-block area near 50 Tufts Street for evaluation of vapor intrusion as a potential exposure pathway. The evaluation included a program of sub-slab soil vapor testing and indoor air testing. Indoor air testing at the Property indicated the presence of chlorinated VOCs, particularly PCE, and the likelihood of a complete vapor intrusion exposure pathway. The residence at the Property includes a basement.

To eliminate or mitigate the exposure pathway, UniFirst Corporation installed an Exposure Pathway Elimination Measure (EPEM) at the Property. In the basement, the EPEM consists of a new concrete floor and a vapor barrier system both beneath the floor and on the fieldstone foundation walls below the outside grade, together with a venting system beneath the vapor barrier. Sketches of the EPEM installed in the basement are shown in Fig. 2.

The EPEM includes a floor ventilation system consisting of a vapor transmission layer (porous geotextile) capped by a 40-millimeter-thick, high-density polyethylene vapor barrier and a new, approximately 4-inch-thick concrete slab. Two vapor sumps are installed in the floor with polyvinyl chloride (PVC) ventilation piping that extends up to the floor joists, exits the building above the sill, and extends above the roofline. Soil vapor is captured by the vapor transmission layer and ventilated to the outdoor ambient air, bypassing the pathway through the slab into indoor air. The ventilation system is designed so that an electric powered fan may be added to facilitate the flow of soil vapor through the ventilation system. A fan will be added to the ventilation system if and when an LSP determines that such facilitation of flow is necessary or appropriate. The EPEM also includes a wall vapor barrier system comprised of an approximately 1-inch-thick layer of cementitious stucco. The modified basement walls and floor are coated with a two-part epoxy vapor barrier.

Indoor air testing conducted after the installation of the EPEM did not detect VOCs above laboratory method reporting limits. Installation of the EPEM achieved a condition of No Significant Risk at 10 Morton Street.

Why an AUL is appropriate to achieve and/or maintain a condition of No Significant Risk at the Site:

The EPEM eliminated or mitigated the exposure pathway for vapor intrusion of chlorinated VOCs into the indoor air at 10 Morton Street and achieved a condition of No Significant Risk. In order to maintain a condition of No Significant Risk, the integrity of the EPEM must be preserved. Therefore, this AUL is necessary to define the restricted and permitted activities to maintain a condition of No Significant Risk. The AUL is applicable to the entire Property.

AUL Restrictions

The purpose of the AUL is to preserve the integrity of the EPEM because it eliminates or mitigates the exposure pathway and achieves and/or maintains a condition of No Significant Risk.

The following are the activities and uses that will be permitted and prohibited at the Property subject to this AUL.

1. Activities and Uses Consistent with the AUL Opinion. The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare, or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Property:

   (i) Any use of the existing building located on the Property, including use of the building as a residence, so long as the vapor barrier and venting system

comprising the EPEM are maintained and, if an electric fan is added to the EPEM, such fan operates continuously;

(ii) Activities and uses which are not identified by this Notice as being inconsistent with maintaining a condition of No Significant Risk;

(iii) Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare, or the environment than the activities and uses set forth in this Paragraph; and

(iv) Such other activities and uses not identified as being Activities and Uses Inconsistent with the AUL.

2. Activities and Uses Inconsistent with the AUL Opinion. Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare, or the environment or in a substantial hazard, are as follows:

(i) In the basement, removal or damage of the concrete floor, the overlying epoxy coating, the vapor barrier, the sub-slab venting system, and/or the protective stucco wall finish;

(ii) In the basement, any activities which may damage and/or compromise the concrete floor, the overlying epoxy coating, the vapor barrier, the sub-slab venting system, and/or the protective stucco wall finish;

(iii) In the event an electric fan is added to the EPEM, removal or damage of such fan;

(iv) In the event an electric fan is added to the EPEM, shutting down, turning off, or removing electrical power to the fan, or any other activity that would make such fan inoperable;

(v) Any activities which may damage and/or compromise the ventilation piping located on the exterior of the building; and

(vi) Construction of any occupied structure at the Property without the installation of an EPEM and subsequent indoor air sampling to confirm its effectiveness in preventing or mitigating vapor intrusion into the structure.

3. Obligations and Conditions Set Forth in the AUL Opinion. Obligations and/or conditions to be undertaken and/or maintained at the Property to maintain a condition of No Significant Risk as set forth in the AUL Opinion shall include the following:

(i) In the basement, the integrity of the concrete floor, the overlying epoxy floor coating, the vapor barrier, the sub-slab venting system, and the protective stucco wall finish of the existing building must be preserved and the elements of the EPEM must not be damaged or altered;

(ii) On the exterior of the building, the integrity of the ventilation piping must be preserved, and the elements of the piping must not be damaged or altered;

(iii) In the event an electric fan is added to the EPEM, power must be maintained to such fan and the fan may not be shut down;

(iv) In the event an electric fan is added to the EPEM, notification must be provided to UniFirst Corporation, together with its successors and assigns and/or its agents, if such fan becomes inoperable, and access must be provided to UniFirst Corporation, together with its successors and assigns and/or its agents, to repair or replace the fan as necessary;

(v) Access must be provided, at least annually, to UniFirst Corporation, together with its successors and assigns and/or its agents, to inspect the EPEM for damage and, to the extent necessary to continue the EPEM's effectiveness in preventing or mitigating vapor intrusion into the building, to conduct indoor air testing and/or repair or replace the vapor barrier, venting system, and/or electric fan (to the extent such a fan is added to the EPEM); and

(vi) Any future construction of an occupied structure at the Property must include the installation of an EPEM to prevent or mitigate vapor intrusion into the structure. The design of the EPEM must be incorporated into the design and construction of the future structure and must be evaluated by an LSP. Follow-up indoor air testing must be conducted to confirm the effectiveness of the EPEM in preventing or mitigating vapor intrusion into the structure.

Summary and Conclusions

This LSP Opinion has been prepared to support the implementation of a Notice of AUL for a release of oil or hazardous materials at the Property. Based on the results of the Risk Characterization and with the implementation of an AUL on the Property, it is GEI's opinion that a condition of No Significant Risk will be maintained at the Property.

Ileen S. Gladstone, P.E., LSP, LEED AP

LSP Seal

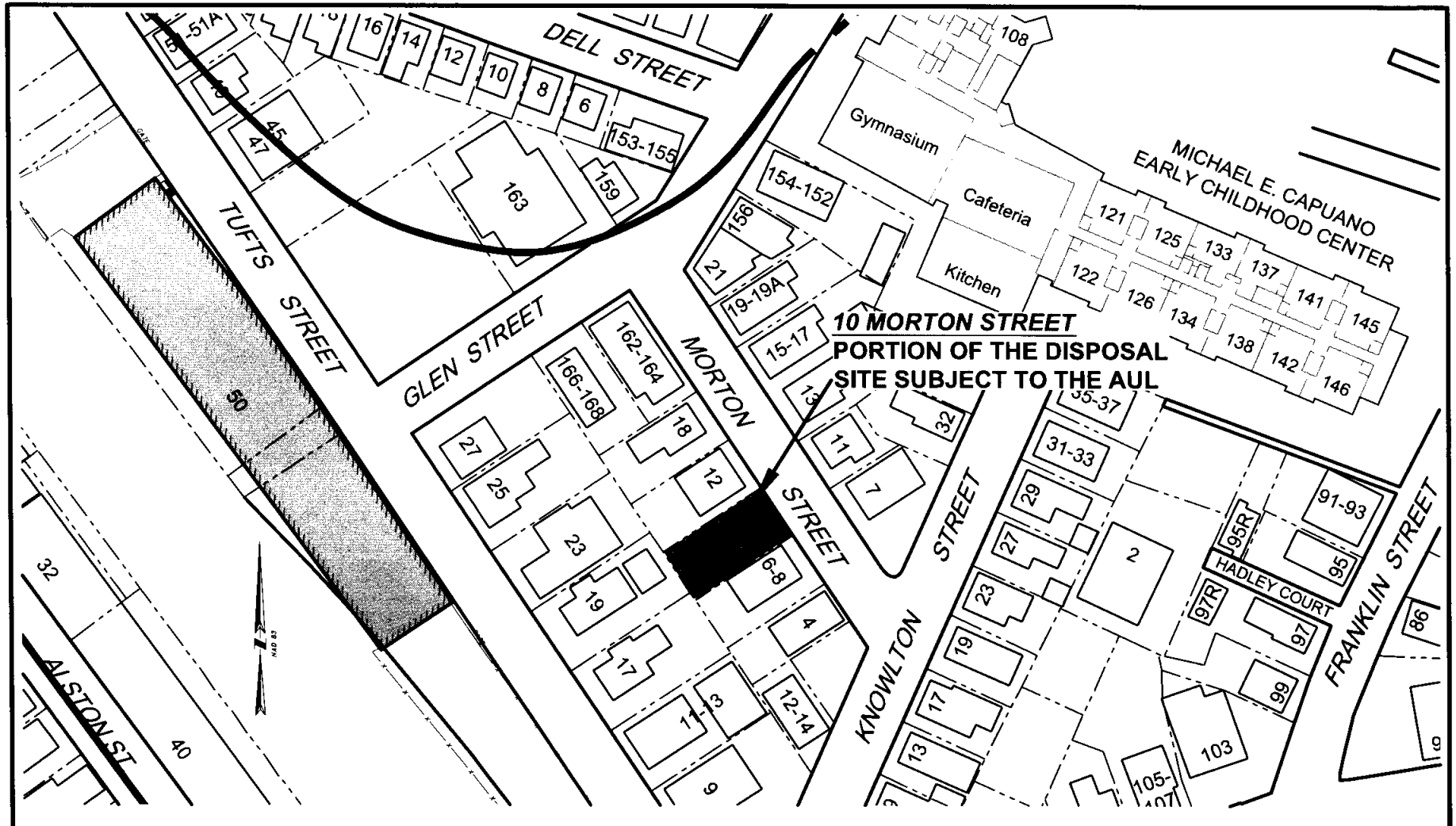
Date: 12/11/09

This AUL Opinion is based on the information presented in:

DEP (2007). The Massachusetts Contingency Plan (MCP) 310 CMR 40.0000, effective December 14.

GEI (2008). "Phase II Comprehensive Site Assessment, Method 3 Risk Characterization, and Phase III Remedial Action Plan, 50 Tufts Street, Somerville, Massachusetts," prepared for UniFirst Corporation, July 14.

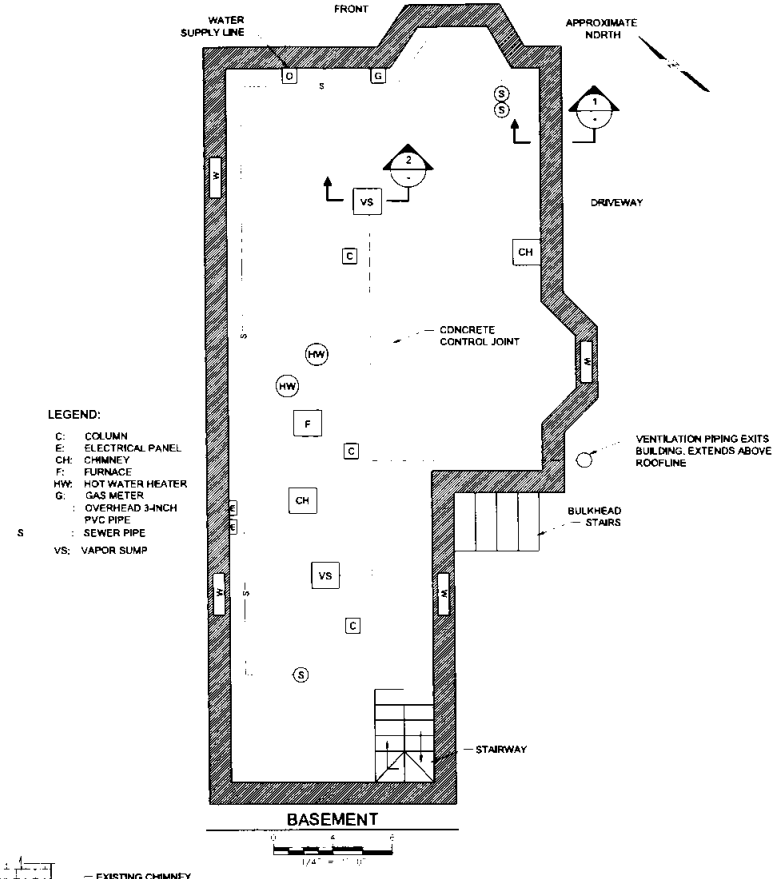
GEI (2009). "Immediate Response Action Status Report No. 7 and Remedial Monitoring Report No. 10, 50 Tufts Street, Somerville, Massachusetts," prepared for UniFirst Corporation, May 11.



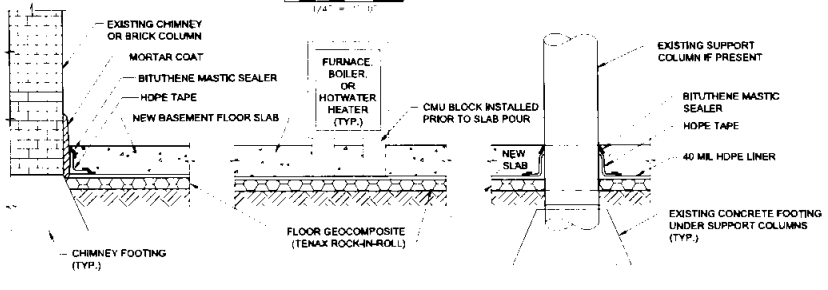
Activity and Use Limitation 50 Tufts Street Somerville, Massachusetts	GEI Consultants	**PORTION OF THE DISPOSAL SITE SUBJECT TO THE AUL**	
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	November 2009	Fig. 1

N:\04516\#Drafting\04516-3\AULs\045163 - 10 MORTON

Bk: 54007 Pg: 245

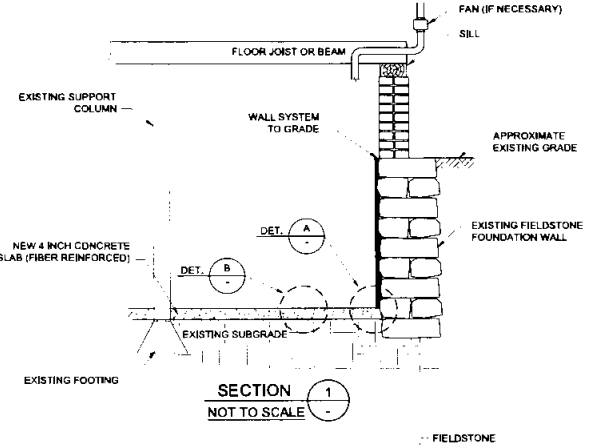


BASEMENT



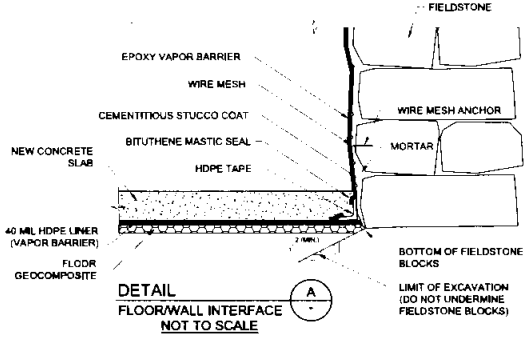
DETAIL - BASEMENT SLAB VAPOR BARRIER SYSTEM (B)

NOT TO SCALE



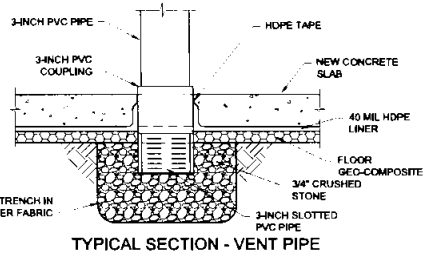
SECTION (1)

NOT TO SCALE



DETAIL FLOOR/WALL INTERFACE (A)

NOT TO SCALE



TYPICAL SECTION - VENT PIPE PENETRATION THRU NEW BASEMENT FLOOR SLAB (2)

VAPOR SUMP

NOT TO SCALE

SPECIFICATIONS:

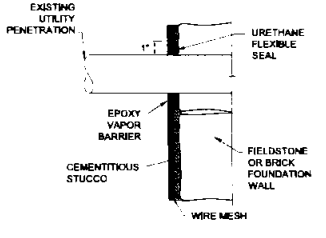
1) CONCRETE; IN ACCORDANCE WITH ACI 301 "SPECIFICATION FOR STRUCTURAL CONCRETE"
   A) MINIMUM COMPRESSIVE STRENGTH (F'C) (ASTM C39): 3000 PSI @ 28 DAYS
   B) PORTLAND CEMENT (ASTM C150); TYPE II OR IIA
   C) MAXIMUM WATER-TO-CEMENT RATIO BY WEIGHT: 0.50
   D) AGGREGATE (ASTM C33); 3/4-INCH NOMINAL MAXIMUM SIZE
   E) SLUMP (ASTM C143): 3 INCHES TO 5 INCHES
   F) AIR CONTENT: 7.0% +/- 1.5%
   G) PERMITTED ADMIXTURES: AIR ENTRAINING, FIBER REINFORCEMENT
2) CONCRETE FINISHING: FLOAT FINISH. CONTROL JOINTS INSTALLED IN ACCORDANCE WITH PLAN
3) SOLID PVC PIPE: ASTM D1785, SCHEDULE 40
4) SLOTTED PVC PIPE: 20 SLOT THREE ROW WELL SCREEN
5) CRUSHED STONE: MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 EDITION, SECTION M2.01.4 (3/4-INCH NOMINAL SIZE); GRADATION RECAPITULATED BELOW:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
1 INCH	100
3/4 INCH	90-100
1/2 INCH	10-50
3/8 INCH	0-20
NO. 4	0-5

6) FLOOR GEOCOMPOSITE: TENAX ROCK-IN-ROLL 7100-2 DOUBLE SIDED
7) FILTER FABRIC: 12 OZ. POLYPROPYLENE NON-WOVEN GEOTEXTILE
8) MASTIC: W.R. GRACE & CO. BITUTHENE MASTIC
9) WIRE MESH ANCHORED VIA GALVANIZED MASONRY FASTENERS ON 1.5 FOOT GRID SPACING. ANCHORS INSTALLED INTO STONE NOT MORTAR JOINTS
10) STUCCO: CEMENTITIOUS STUCCO APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FINISHED TOTAL THICKNESS 1 INCH, ± 1/8 INCH
11) EPOXY VAPOR BARRIER: SIKAGARD 62
12) VENTILATION PIPING EXITS BUILDING ENVELOPE ABOVE SILL ELEVATION

NOTES:

1. SITE PLAN BASED ON GEI FIELD MEASUREMENTS AND CITY OF SOMERVILLE TAX CARDS.
2. THIS DRAWING HAS BEEN APPROVED BY A MASSACHUSETTS PROFESSIONAL CIVIL ENGINEER FOR THE EXCAVATION OF SOIL TO ALLOW FOR INSTALLATION OF A 3.5-INCH CONCRETE SLAB WITH FIBER ADMIXTURE, 40 MIL HDPE VAPOR BARRIER, AND A VOID-MAINTAINING DRAINAGE GEOCOMPOSITE TO PROVIDE A SUPPORTIVE LAYER, CAPILLARY BREAK AND VAPOR TRANSMISSION LAYER BENEATH THE HDPE VAPOR BARRIER.
3. CONSTRUCTION DETAILS ILLUSTRATED IN THIS DRAWING WERE INSTALLED UNDER SUPERVISION OF A MASSACHUSETTS LICENSED CONSTRUCTION SUPERVISOR.



DETAIL - EXISTING UTILITY PENETRATION AT FOUNDATION WALL

NOT TO SCALE

10 Morton Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

EXPOSURE PATHWAY ELIMINATION MEASURE DETAILS

Project 04516-3 | November 2009 | Fig. 2

N:\04516\Drafting\04516-3\Residential Vapor Mitigation\045163-RVM-10 MORTON - AUL

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H-N

Bk: 51676 Pg: 583 Doc: REST
Page: 1 of 7 09/12/2008 01:05 PM

GRANT OF REMEDIATION EASEMENT AND RESTRICTIONS

This Grant of Remediation Easement and Restrictions (the "Agreement") is entered into as of 8/11/08 (the "Effective Date"), by and among UniFirst Corporation ("UniFirst") and CATHERINE FLINT & AMES FLINT (the "Owner") (collectively, the "Parties").

INTENT OF THE PARTIES

The Parties are entering this Agreement for the purposes, and in consideration of the mutual covenants and undertakings, set forth herein. The Parties acknowledge and agree that they are entering this Agreement for good and valuable consideration, the receipt of which is hereby acknowledged and the legal sufficiency of which is hereby conclusively established.

Owner is the owner in fee of certain real property located at 10 Morton Street, Somerville, Massachusetts (the "Property"), more particularly described in Schedule A attached hereto and incorporated herein;

UniFirst has voluntarily agreed to make certain improvements to the building located on the Property, at no expense to Owner, to inhibit vapors from intruding through the foundation of the building (the "Exposure Pathway Elimination Measure" or "EPEM").

The Parties agree that it is in their mutual interest that UniFirst install such an Exposure Pathway Elimination Measure.

As more particularly set forth below, Owner therefore has agreed to: (i) grant UniFirst and its designees access to the Property to install, operate, monitor and maintain the EPEM; and (ii) exercise reasonable care not to cause damage to the EPEM.

I. Remediation Easement

Owner hereby grants to UniFirst and its designees the right and easement to enter upon the Property for the purpose of installing an EPEM to inhibit vapors from intruding through the foundation of the building located on the Property, and an easement for taking all actions

Goodwin Procter LLP
53 State Street
Boston, MA 02109

necessary or appropriate for the operation, maintenance and monitoring of such EPEM once installed. The rights, privileges, benefits and burdens as established by these easements shall run with the land for the mutual benefit of the Owner and UniFirst. The easements herein granted shall be perpetual.

Neither the granting of the above-described easements nor any term or provision hereof shall be construed as, or constitute evidence of, an admission of any liability or wrongdoing by UniFirst or Owner.

II. Installation of the EPEM

Except as otherwise provided in this Agreement, UniFirst shall bear all costs associated with installation, operation, monitoring and maintenance of the EPEM.

Owner hereby acknowledges that Owner has reviewed with the scientists and engineers from UniFirst's environmental consultants, GEI Consultants Inc. ("GEI"), the conceptual design of the EPEM, and has approved the conceptual design and work associated with the installation of the EPEM. Owner hereby acknowledges that the final design of the EPEM may be modified as the installation work progresses and the EPEM is monitored. UniFirst agrees that it shall keep Owner apprised of the progress of the work and results of the monitoring.

Owner agrees that UniFirst and/or its designees may act as an Authorized Agent of the Owner for the purpose of obtaining any and all permits required to install and maintain the EPEM, including but not limited to a permit to build, alter, or repair building systems and/or components. Owner similarly agrees that UniFirst and/or its designee may sign preliminary and final construction cost affidavits for the City of Somerville Inspectional Services Division to the extent required to obtain permits required to install and maintain the EPEM. To the extent necessary to obtain any permit required to install and maintain the EPEM, Owner shall: (i) sign a "Certificate of Good Standing" for inclusion in the application for such permit; and/or (ii) resolve any past due accounts with the City of Somerville Treasury Department.

Owner acknowledges that UniFirst will not upgrade or replace building systems or components (for example, plumbing or heating systems, air conditioning units, or water heaters) that do not meet the current Massachusetts Building Code unless specifically directed and required by the City of Somerville Inspectional Services Division. Where compliance with the Massachusetts Building Code is impractical because of construction constraints or regulatory conflicts, Owner agrees to accept Compliance Alternatives, as defined in 780 CMR 3406.

Owner acknowledges that UniFirst and/or its designees may be required to temporarily interrupt electrical, water, sewer, natural gas, telephone, and/or heat in order to install and maintain the EPEM. To the extent such interruptions are necessary, UniFirst and/or its designees will schedule service interruptions at a time, and for a duration, that is convenient for the Owner and/or the Owner's tenants.

Owner acknowledges that, prior to the installation of the EPEM, UniFirst and/or its designee may temporarily remove any items stored, and appliances (washer, dryer, dehumidifier) installed, in the basement of the building on the Property. If removed, the items shall be stored at a secure off-site location and shall be returned, and reinstalled to the extent necessary,

following installation of the EPEM. UniFirst and/or its designee will provide the Owner with access to their stored items with forty-eight (48) hours notice.

Owner further acknowledges that installation and maintenance of the EPEM may require modifications to the building envelope, foundation, utility services and systems, fenestration, and/or means of egress to the basement. Owner hereby gives UniFirst and its designees permission to make such changes to the building as are reasonably necessary to install and/or maintain the EPEM.

UniFirst and/or its designee will manage and dispose of all construction debris generated in conjunction with the installation and maintenance of the EPEM, including without limitation any waste materials generated in conjunction with interior demolition work. Notwithstanding the preceding sentence, if UniFirst and/or its designee shall encounter hazardous building materials not related to the 50 Tufts Street Site (e.g., asbestos insulation or building materials) during installation and maintenance of the EPEM, UniFirst shall bear the costs of removing and disposing of such hazardous building materials in accordance with applicable regulations, but Owner shall sign any waste manifests required for such disposal.

III. Performance of the EPEM

The objectives of the EPEM are: (i) to achieve a condition of No Significant Risk, as that term is defined in M.G.L. c. 21E and its implementing regulations at 310 CMR 40.0000 et seq., the Massachusetts Contingency Plan ("MCP"), as of the Effective Date; and (ii) to the extent feasible, eliminate or mitigate the transport of measurable concentrations of constituents of concern into living space. UniFirst agrees to make all best efforts to achieve a condition of No Significant Risk for the Property, and to the extent feasible, eliminate or mitigate the transport of measurable concentrations of constituents of concern into living space.

Upon completion of installation of the EPEM, UniFirst and/or its designees shall conduct sufficient monitoring, in the reasonable discretion of GEI, to confirm that the EPEM is functioning as designed. UniFirst and/or its designees shall, in a reasonably timely manner, make modifications to the EPEM if the monitoring indicates that such modifications are reasonably necessary to achieve a condition of No Significant Risk.

In accordance with the MCP, UniFirst shall submit to the Massachusetts Department of Environmental Protection a Response Action Outcome ("RAO") Statement, either separately for the Property or as part of a site-wide submission. Owner acknowledges that an Activity and Use Limitation ("AUL") may need to be placed on the Property in support of the RAO Statement, and hereby agrees to sign, and authorize recordation and implementation of, a Notice of Activity and Use Limitation for the Property prepared by GEI. In pertinent part, the purpose of the AUL will be to further memorialize the undertakings by UniFirst and Owner, on behalf of themselves and their executors, heirs, successors and assigns, concerning the installation, operation, maintenance, monitoring and preservation of the EPEM. Such AUL would include, for example, provisions relating to maintaining the integrity of the EPEM, and access to and use of the basement where the EPEM has been installed.

IV. Restricted Uses of Property

The restrictions conveyed to UniFirst in this Section IV consist of covenants on the part of the Owner to do or refrain from doing the various acts set forth below and to allow UniFirst and its designees to install, operate, maintain, and monitor the EPEM without undue interference. It is hereby acknowledged that these covenants shall constitute a servitude upon the land and run with the land.

Owner hereby agrees and covenants that Owner shall not, without the prior written consent of UniFirst alter or compromise the integrity of any components of the EPEM, including, but not limited to, foundation components and coatings, wall components and coatings, ventilation piping, and EPEM labels. Owner further agrees and covenants that Owner shall not, nor shall they permit their tenants or subtenants to, change the existing use of the basement space for storage, housing of utilities, and building and utility maintenance. The Owner shall not, nor shall they permit their tenants or subtenants to, use the basement as living space.

V. Enforcement of the Restrictions

UniFirst and/or its designees may make inspections of the building and the EPEM at reasonable times, and upon reasonable notice to Owner, to assure compliance by Owner with all of the covenants and restrictions herein. In the event that UniFirst becomes aware of any event or circumstance of non-compliance with the terms and conditions herein set forth, UniFirst shall give notice to Owner of such event or circumstance of non-compliance and demand corrective action sufficient to abate such event or circumstance of non-compliance and restore the Property to its previous condition.

Failure by Owner to discontinue, abate, or take such other corrective action as may be demanded by UniFirst within a reasonable time after receipt of notice and reasonable opportunity to take corrective action shall entitle, but not obligate, UniFirst to: (i) take corrective action itself to abate such event or circumstance of non-compliance; and/or (ii) bring an action in a court of competent jurisdiction to enforce the terms of this Agreement and to recover any damages from such non-compliance. If UniFirst chooses to take corrective action, Owner shall reimburse UniFirst for all reasonable costs incurred by UniFirst in investigating the non-compliance and securing its correction. If UniFirst chooses to bring an action in a court of competent jurisdiction to enforce the terms of this Agreement and recovers any damages stemming from Owner's non-compliance with this Agreement, such damages, when recovered, shall be applied by UniFirst to corrective action on the Property, if necessary. If a court determines that Owner has failed to comply with this Agreement, Owner shall reimburse UniFirst for any reasonable costs of enforcement, including court costs and reasonable attorneys' and consultants' fees, in addition to any other payments ordered by such court. The Parties specifically acknowledge that events and circumstances of non-compliance constitute immediate and irreparable injury, loss, and damage and accordingly entitle UniFirst to such equitable relief, including but not limited to injunctive relief, as the court deems just. The remedies described herein are in addition to, and not in limitation of, any other remedies available to UniFirst at law, in equity, or through administrative proceedings.

No delay or omission by UniFirst in the exercise of any right or remedy upon any breach by Owner shall impair UniFirst's rights or remedies or be construed as a waiver.

VI. Miscellaneous Provisions

A. UniFirst shall be entitled to record this Agreement, or to record a notice making reference to the existence of this Agreement, in the Middlesex County Registry of Deeds. In any deed conveying an interest in all or part of the Property, Owner shall make reference to the easement and restrictions described herein and shall indicate that said easement and restrictions are binding upon all successors in interest in the Property in perpetuity. Owner shall also notify UniFirst of the name(s) and address(es) of Owner's successor(s) in interest.

B. The term "Owner" shall include the heirs, executors, administrators, successors and assigns of the original Owner, Catherine D Flint. The term "UniFirst" shall include the successors and assigns of UniFirst Corporation.
James J Flint

C. This Agreement constitutes the complete agreement between the Parties and supersedes all prior understandings, negotiations, representations, and agreements, if any, between UniFirst and Owner.

D. Each Party to this Agreement represents and warrants that it, and the person executing this Agreement on such Party's behalf, is fully authorized to execute this Agreement and to bind such Party to the terms and obligations set forth in this Agreement.

E. This Agreement shall be interpreted in accordance with, and the rights of the Parties governed by, Massachusetts law, without regard to choice of law principles. The Parties agree that all actions arising out of this Agreement shall only be brought in a state or federal court in the Commonwealth of Massachusetts, and each Party consents to venue in and jurisdiction of such court.

F. The Parties do not intend this Agreement to be construed against any Party merely because such Party or such Party's counsel drafted this Agreement or any portion hereof.

G. This Agreement is entered into by the Parties voluntarily. Each Party has had the opportunity to consult counsel in the execution of this Agreement, and each fully understands and acknowledges each limitation, restriction, and obligation which may be imposed by one against another pursuant to the terms and conditions of this Agreement. There have been no statements, representations, promises, undertakings, or inducements made to a Party by any other Party hereto, except as expressly set forth in this Agreement, that have induced any Party or Parties to enter into and/or execute this Agreement.

H. Any modification, amendment, or waiver of this Agreement (or portion of this Agreement) must be made in writing and signed by the Party to be charged with obligations arising from such modification, amendment, or waiver.

I. Invalidation of any provision hereof shall not affect any other provision of this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Grant of Remediation Easement and Restrictions as of the date and year first above written.

UNIFIRST CORPORATION

BY, Jol A Badey

UniFirst Corporation

OWNER

BY, James Flint

JAMES FLINT

(print name)

Catherine Flint

Catherine Flint

CATHERINE FLINT

(print name)

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF

On this 11TH day of AUGUST, 2008, before me, the undersigned notary public, personally appeared JAMES FLINT, and proved to me through satisfactory evidence of identification, which was MASS driver License, to be the person whose name is signed on the preceding or attached document and acknowledged to me that she signed it voluntarily for its stated purpose.

(official signature and seal of notary)

My commission expires: 8'10'2012

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF

On this 11TH day of AUGUST, 2008, before me, the undersigned notary public, personally appeared CATHERINE FLINT, and proved to me through satisfactory evidence of identification, which was MASS driver License to be the person whose name is signed on the preceding or attached document and acknowledged to me that she signed it voluntarily for its stated purpose.

(official signature and seal of notary)

My commission expires: 8'10'2012

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF Middlesex

On this 4th day of September, 2008, before me, the undersigned notary public, personally appeared John R. Badey, as Vice President for UniFirst Corporation, proved to me through satisfactory evidence of identification, which was NH driver's lic to be the person whose name is signed on the preceding or attached document and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Marcia H. Anderson (official signature and seal of notary)

My commission expires:

MARCIA H. ANDERSON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
July 20, 2012

SCHEDULE A

10 Morton Street, Somerville:

Being the same premises described in a deed to the Owner dated November 4, 1966, recorded with the Middlesex South Registry of Deeds in **Book 11248, page 95**.

Eugene C. Brune
Attest Middlesex S. Register

Consulting Engineers and Scientists

March 7, 2023
Project 04516-3

Randal Isaac
10 Morton Street
Somerville, MA 02145

Dear Mr. Isaac:

Re: Soil Vapor Point Installation and Soil Vapor Sampling
10 Morton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct soil vapor point installation and soil vapor sampling at your property. Prior to soil vapor point installation and soil vapor sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Chris Coner, CHMM
Project Manager

MEF:jam
Enclosure

c: Catherine Malagrida, UniFirst Corporation
MassDEP (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has~~ been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has~~ been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/~~has~~ been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other_____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil vapor point installation and soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

March 24, 2023
Project 045163

Mr. Randal Isaac
Ms. Adriana Isaac
10 Morton Street
Somerville, MA 02145

Re: Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

Dear Mr. and Ms. Isaac

This letter provides a summary of soil vapor testing performed at 10 Morton Street, in Somerville, Massachusetts (the Property).

An Exposure Pathway Mitigation Measure (EPMM) was installed at the Property in March 2009 to mitigate the potential for vapors to enter the building from the subsurface. The EPMM is a sub-slab venting system and associated ventilation piping. The EPMM was installed prior to Massachusetts Department of Environmental Protection (MassDEP) issuing "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435," in 2016 which included sub-slab soil gas screening levels. The screening levels are a line of evidence to evaluate if there is a potential for a complete vapor intrusion pathway.

We understand you are renovating the house at 10 Morton Street and you would like to lower the basement floor and remove the EPMM. To evaluate the current concentration of soil vapor beneath the slab GEI performed sub-slab soil vapor sampling on March 8, 2023. Prior to collecting the soil-vapor samples, GEI installed four new soil-vapor points (SV1 through SV4) through the basement slab. The samples were collected over a 1-hour period.

Attached is a summary table of the chemicals detected in the soil vapor samples along with the historic sampling results (Table 1) and the MassDEP sub-slab soil gas screening levels, and the laboratory data sheets for the recent sampling. Tetrachloroethylene (PCE) was detected in all four samples at concentrations between 0.183 micrograms per cubic meter ($\mu g/m^3$) and 1.32 $\mu g/m^3$. Concentrations of cis-1,2-Dichloroethylene were detected in two samples (SV1 and SV2) at 0.083 $\mu g/m^3$ and 0.115 $\mu g/m^3$, respectively. Concentrations of Trichloroethylene (TCE) was detected in SV2 at 0.258 $\mu g/m^3$.

Based on the detected concentrations, we recommend a second round of soil vapor sampling to confirm the results at the residence.

At present, the basement cannot be used as a living space and the EPMM must be maintained under the terms of the Activity and Use Limitation and the Remediation Easement. However, if a second round of sampling is consistent with these recent sampling results, we are prepared to work with you to allow basement renovations to proceed.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

We appreciate your cooperation throughout the sampling process. If you have any immediate questions regarding the soil vapor testing results, please do not hesitate to contact me at 781-721-4012 or at igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

Table 1 - Summary of Sub-Slab Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

		Sample Location:	10 Morton Street									
		Sample Name:	10Mort- SG1		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4	
		Sample Date:	5/9/2007		3/8/2023		3/8/2023		3/8/2023		3/8/2023	
		Collected by:	GEI		GEI		GEI		GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**										
Volatile Organic Compounds (VOCs)	TO-15											
cis-1,2-Dirchloroethylene (cis-1,2-DCE)		56	<0.79	<0.20	0.083	0.021	0.115	0.029	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		98	4.0	0.59	1.06	0.156	1.32	0.194	0.183	0.027	0.292	0.043
1,1,1-Trichloroethane		210	1.2	0.22	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		28	<1.1	<0.20	<0.107	<0.020	0.258	0.048	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.

ANALYTICAL REPORT

Lab Number:	L2312382
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	03/15/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2312382-01	045163-10MORT-SV1	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 13:00	03/09/23
L2312382-02	045163-10MORT-SV2	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 13:01	03/09/23
L2312382-03	045163-10MORT-SV3	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 12:51	03/09/23
L2312382-04	045163-10MORT-SV4	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 13:03	03/09/23

Project Name: TUFTS ST. **Lab Number:** L2312382

Project Number: 045163 **Report Date:** 03/15/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on February 28, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 03/15/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-01
Client ID: 045163-10MORT-SV1
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 13:00
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 02:38
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	0.021	0.020	--	0.083	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.156	0.020	--	1.06	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-02
Client ID: 045163-10MORT-SV2
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 13:01
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 03:18
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	0.029	0.020	--	0.115	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	0.048	0.020	--	0.258	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.194	0.020	--	1.32	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-03
Client ID: 045163-10MORT-SV3
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 12:51
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 03:56
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.027	0.020	--	0.183	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-04
Client ID: 045163-10MORT-SV4
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 13:03
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 05:15
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.043	0.020	--	0.292	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2312382
Report Date: 03/15/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 03/13/23 16:13

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1754197-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1754197-3								
Vinyl chloride	74		-		70-130	-		
1,1-Dichloroethene	75		-		70-130	-		
trans-1,2-Dichloroethene	82		-		70-130	-		
1,1-Dichloroethane	84		-		70-130	-		
cis-1,2-Dichloroethene	85		-		70-130	-		
1,1,1-Trichloroethane	72		-		70-130	-		
Trichloroethene	77		-		70-130	-		
1,1,2-Trichloroethane	73		-		70-130	-		
Tetrachloroethene	93		-		70-130	-		
1,1,2,2-Tetrachloroethane	90		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1754197-5 QC Sample: L2312382-03 Client ID: 045163-10MORT-SV3						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.027	0.028	ppbV	4		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS ST.

Lab Number: L2312382

Project Number: 045163

Report Date: 03/15/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2312382-01	045163-10MORT-SV1	01521	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	33.4	7
L2312382-01	045163-10MORT-SV1	2009	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.6	-5.1	-	-	-	-
L2312382-02	045163-10MORT-SV2	01922	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	36.1	0
L2312382-02	045163-10MORT-SV2	2176	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.4	-1.5	-	-	-	-
L2312382-03	045163-10MORT-SV3	0193	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	35.9	0
L2312382-03	045163-10MORT-SV3	551	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.6	0.0	-	-	-	-
L2312382-04	045163-10MORT-SV4	01027	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	37.2	3
L2312382-04	045163-10MORT-SV4	497	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.7	-1.9	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2308654
Report Date: 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/18/23 19:23
Analyst: NFL

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2308654
Report Date: 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	103		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308654
Report Date: 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/18/23 19:23
Analyst: NFL

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	104		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2312382-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2312382-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2312382-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2312382-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

CHAIN OF CUSTODY PAGE ____ OF ____

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/9/23

ALPHA Job #: L2312382

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr
Phone: 781-721-4000
Fax: —
Email: labdata@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville MA
Project #: 045163
Project Manager: Chris Coner
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 5 day Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: 045163

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒ see attached analyte list

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15 ☒	TO-15 SIM	APH Subject Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
L2382-01	045163-10Mar-SV1	3/8/23	1200	1300	-30.57	-6.73	SV	CWS/DSM	2.7L	2009	01521	X						☒ see attached list
-02	045163-10Mar-SV2	3/8/23	1201	1301	-30.41	-3.20	SV	CWS/DSM	2.7L	2176	01422	X						
-03	045163-10Mar-SV3	3/8/23	1202	1251	-30.52	-1.37	SV	CWS/DSM	2.7L	551	0193	X						
-04	045163-10Mar-SV4	3/8/23	1203	1303	-30.32	-3.51	SV	CWS/DSM	2.7L	497	01027	X						

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
Dawn Hill	3/8/23 1500	GEI Field Room	3/8/23 15:00
GEI Field Room	3/9/23 1220	Molly Forrest	3/9/23 1220
Molly Forrest	3/9/23 1220	DHL AAC	3/9/23 1220
DHL AAC	3/9/23 1445		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Rec'd 3/9/23 1500

3/9/23 16:10

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:03152317:34

Consulting Engineers and Scientists

March 31, 2023
Project 04516-3

Randal Isaac
Adriana Isaac
10 Morton Street
Somerville, MA 02145

Dear Mr. and Ms. Isaac:

Re: Soil Vapor Sampling
10 Morton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct soil vapor sampling at your property. Following soil vapor sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
Enclosure

c: Catherine Malagrida, UniFirst Corporation
MassDEP (via Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac and Ms. Adriana Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

July 13, 2023
Project 045163

Mr. Randal Isaac
Ms. Adriana Isaac
10 Morton Street
Somerville, MA 02145

Re: Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

Dear Mr. and Ms. Isaac

This letter provides a summary of soil vapor testing performed at 10 Morton Street, in Somerville, Massachusetts (the Property).

An Exposure Pathway Mitigation Measure (EPMM) was installed at the Property in March 2009 to mitigate the potential for vapors to enter the building from the subsurface. The EPMM is a sub-slab venting system and associated ventilation piping. The EPMM was installed prior to Massachusetts Department of Environmental Protection (MassDEP) issuing "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435," in 2016 which included sub-slab soil gas screening levels. The screening levels are a line of evidence to evaluate if there is a potential for a complete vapor intrusion pathway.

We understand you are renovating the house at 10 Morton Street and you would like to lower the basement floor and remove the EPMM. To evaluate the current concentration of soil vapor beneath the slab GEI performed sub-slab soil vapor sampling on March 8, 2023. Prior to collecting the soil-vapor samples, GEI installed four new soil-vapor points (SV1 through SV4) through the basement slab. GEI returned on March 31, 2023 to collect a second round of sub-slab soil vapor samples. The samples were collected over a 1-hour period.

Attached is a summary table of the chemicals detected in the soil vapor samples along with the historic sampling results (Table 1) and the MassDEP sub-slab soil gas screening levels, and the laboratory data sheets for the recent sampling. Concentrations of tetrachloroethylene (PCE) and trichloroethylene (TCE) were not detected above the laboratory reporting limits.

GEI returned on April 24, 2023, to collect a third round of confirmatory sub-slab soil vapor sampling, and the results of that sampling will be included under separate cover.

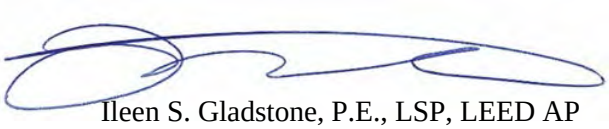
Following discussion with you regarding the results of this second round of samples, GEI indicated that proceeding with the demolition of the basement was permissible.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

We appreciate your cooperation throughout the sampling process. If you have any immediate questions regarding the soil vapor testing results, please do not hesitate to contact me at 781-721-4012 or at igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP – NERO via Status Report

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac and Ms. Adriana Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Table 1 - Summary of Sub-Slab Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

Sample Location:			10 Morton Street																	
Sample Name:			10Mort- SG1		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4	
Sample Date:			5/9/2007		3/8/2023		3/8/2023		3/8/2023		3/8/2023		3/31/2023		3/31/2023		3/31/2023		3/31/2023	
Collected by:			GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**																		
Volatile Organic Compounds (VOCs)	TO-15																			
cis-1,2-Dirchloroethylene (cis-1,2-DCE)		56	<0.79	<0.20	0.083	0.021	0.115	0.029	<0.079	<0.020	<0.079	<0.020	<0.40	<0.10	<0.40	<0.10	<0.40	<0.10	<0.40	<0.10
Tetrachloroethylene (PCE)		98	4.0	0.59	1.06	0.156	1.32	0.194	0.183	0.027	0.292	0.043	<0.68	<0.10	<0.68	<0.10	<0.68	<0.10	<0.68	<0.10
1,1,1-Trichloroethane		210	1.2	0.22	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.55	<0.10	<0.55	<0.10	<0.55	<0.10	<0.55	<0.10
Trichloroethylene (TCE)		28	<1.1	<0.20	<0.107	<0.020	0.258	0.048	<0.107	<0.020	<0.107	<0.020	<0.54	<0.10	<0.54	<0.10	<0.54	<0.10	<0.54	<0.10

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.

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A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV1
Sample ID: 23D0007-01
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:54

Sample Description/Location:
Sub Description/Location:
Canister ID: 2383
Canister Size: 3 liter
Flow Controller ID: 4402
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -4.5
Receipt Vacuum(in Hg): -2.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/10/23 21:55	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/10/23 21:55	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 21:55	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 21:55	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/10/23 21:55	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/10/23 21:55	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.4	70-130	4/10/23 21:55

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV2
Sample ID: 23D0007-02
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:55

Sample Description/Location:
Sub Description/Location:
Canister ID: 2742
Canister Size: 3 liter
Flow Controller ID: 4403
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -2.2
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/10/23 22:37	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/10/23 22:37	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 22:37	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 22:37	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/10/23 22:37	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/10/23 22:37	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.8	70-130	4/10/23 22:37

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV3
Sample ID: 23D0007-03
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:56

Sample Description/Location:
Sub Description/Location:
Canister ID: 2750
Canister Size: 3 liter
Flow Controller ID: 4446
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -3.5
Receipt Vacuum(in Hg): -2.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/11/23 0:01	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/11/23 0:01	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:01	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:01	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/11/23 0:01	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/11/23 0:01	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.0	70-130	4/11/23 0:01

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV4
Sample ID: 23D0007-04
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:57

Sample Description/Location:
Sub Description/Location:
Canister ID: 2759
Canister Size: 3 liter
Flow Controller ID: 4417
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -2.4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/11/23 0:42	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/11/23 0:42	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:42	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:42	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/11/23 0:42	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/11/23 0:42	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.7	70-130	4/11/23 0:42

Consulting Engineers and Scientists

July 13, 2023
Project 04516-3

Randal Isaac
Adriana Isaac
10 Morton Street
Somerville, MA 02145

Dear Mr. and Ms. Isaac:

Re: Soil Vapor Sampling
10 Morton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct soil vapor sampling at your property. Following soil vapor sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
Enclosure

c: Catherine Malagrida, UniFirst Corporation
MassDEP (via Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac and Ms. Adriana Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

July 13, 2023
Project 045163

Mr. Randal Isaac
Ms. Adriana Isaac
10 Morton Street
Somerville, MA 02145

Re: Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

Dear Mr. and Ms. Isaac

This letter provides a summary of soil vapor testing performed at 10 Morton Street, in Somerville, Massachusetts (the Property).

An Exposure Pathway Mitigation Measure (EPMM) was installed at the Property in March 2009 to mitigate the potential for vapors to enter the building from the subsurface. The EPMM is a sub-slab venting system and associated ventilation piping. The EPMM was installed prior to Massachusetts Department of Environmental Protection (MassDEP) issuing "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435," in 2016 which included sub-slab soil gas screening levels. The screening levels are a line of evidence to evaluate if there is a potential for a complete vapor intrusion pathway.

We understand you are renovating the house at 10 Morton Street and you would like to lower the basement floor and remove the EPMM. To evaluate the current concentration of soil vapor beneath the slab GEI performed sub-slab soil vapor sampling on March 8 and March 31, 2023. Prior to collecting the soil-vapor samples on March 8, GEI installed four new soil-vapor points (SV1 through SV4) through the basement slab. GEI returned on April 24, 2023 to collect a third round of sub-slab soil vapor samples. The samples were collected over a 1-hour period.

Attached is a summary table of the chemicals detected in the soil vapor samples along with the historic sampling results (Table 1) and the MassDEP sub-slab soil gas screening levels, and the laboratory data sheets for the recent sampling. Tetrachloroethylene (PCE) was detected in all four samples at concentrations between 0.285 micrograms per cubic meter ($\mu g/m^3$) and 1.22 $\mu g/m^3$. No other chlorinated VOCs were detected above the laboratory reporting limits.

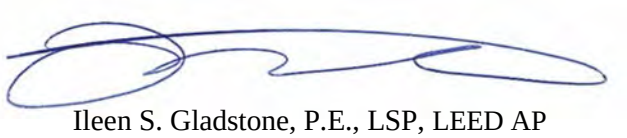
Following discussion with you regarding the results of the second round of samples, GEI indicated that proceeding with the demolition of the basement was permissible.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

We appreciate your cooperation throughout the sampling process. If you have any immediate questions regarding the soil vapor testing results, please do not hesitate to contact me at 781-721-4012 or at igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP – NERO via Status Report

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac and Ms. Adriana Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Table 1 - Summary of Sub-Slab Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

Sample Location:			10 Morton Street																	
Sample Name:			10Mort- SG1		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4		10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4	
Sample Date:			5/9/2007		3/8/2023		3/8/2023		3/8/2023		3/8/2023		3/31/2023		3/31/2023		3/31/2023		3/31/2023	
Collected by:			GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
Units:			µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**																		
Volatile Organic Compounds (VOCs)	TO-15																			
cis-1,2-Dirchloroethylene (cis-1,2-DCE)		56	<0.79	<0.20	0.083	0.021	0.115	0.029	<0.079	<0.020	<0.079	<0.020	<0.40	<0.10	<0.40	<0.10	<0.40	<0.10	<0.40	<0.10
Tetrachloroethylene (PCE)		98	4.0	0.59	1.06	0.156	1.32	0.194	0.183	0.027	0.292	0.043	<0.68	<0.10	<0.68	<0.10	<0.68	<0.10	<0.68	<0.10
1,1,1-Trichloroethane		210	1.2	0.22	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.55	<0.10	<0.55	<0.10	<0.55	<0.10	<0.55	<0.10
Trichloroethylene (TCE)		28	<1.1	<0.20	<0.107	<0.020	0.258	0.048	<0.107	<0.020	<0.107	<0.020	<0.54	<0.10	<0.54	<0.10	<0.54	<0.10	<0.54	<0.10

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.

Table 1 - Summary of Sub-Slab Soil Vapor Testing Results
10 Morton Street
Somerville, Massachusetts

		Sample Location:	10 Morton Street							
		Sample Name:	10MORT-SV1		10MORT-SV2		10MORT-SV3		10MORT-SV4	
		Sample Date:	4/24/2023		4/24/2023		4/24/2023		4/24/2023	
		Collected by:	GEI		GEI		GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
cis-1,2-Dirchloroethylene (cis-1,2-DCE)		56	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		98	0.353	0.052	0.407	0.060	1.22	0.180	0.285	0.042
1,1,1-Trichloroethane		210	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		28	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-01
Client ID: 045163-10MORT-SS1
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:55
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 20:55
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.052	0.020	--	0.353	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-02
Client ID: 045163-10MORT-SS2
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:56
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 21:34
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.060	0.020	--	0.407	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-03
Client ID: 045163-10MORT-SS3
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:57
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 22:13
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.180	0.020	--	1.22	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-04
Client ID: 045163-10MORT-SS4
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:48
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 23:32
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.042	0.020	--	0.285	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	92		60-140

Consulting Engineers and Scientists

July 13, 2023
Project 04516-3

Randal Isaac
Adriana Isaac
10 Morton Street
Somerville, MA 02145

Dear Mr. and Ms. Isaac:

Re: Soil Sampling
10 Morton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct soil sampling at your property. Following soil sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
Enclosure

c: Catherine Malagrida, UniFirst Corporation
MassDEP (via Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac and Ms. Adriana Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling ~~will be~~/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

July 13, 2023
Project 045163

Mr. Randal Isaac
Ms. Adriana Isaac
10 Morton Street
Somerville, MA 02145

Re: Soil Sampling Results
10 Morton Street
Somerville, Massachusetts

Dear Mr. and Ms. Isaac

This letter provides a summary of soil sampling performed at 10 Morton Street, in Somerville, Massachusetts (the Property).

We understand you are renovating the house at 10 Morton Street, and you would like to lower the basement floor and remove the EPMM. Additionally, as part of construction soil will be excavated and disposed of off-site. On May 31, 2023, GEI collected one soil sample (10MORT-DISP) for analysis of volatile organic compounds (VOCs). Concentrations of VOCs were not detected above the laboratory reporting limit. Therefore, soil can be managed according to your contractor's plans. The laboratory data is attached.

We appreciate your cooperation throughout the sampling process. If you have any immediate questions regarding the soil vapor testing results, please do not hesitate to contact me at 781-721-4012 or at igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

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City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Randal Isaac and Ms. Adriana Isaac

2. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 10 Morton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling ~~will be~~/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Soil sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street
Client Sample ID: 045163-10MORT-DISP
Date Sampled: 05/31/23 10:30
Percent Solids: N/A
Initial Volume: 7.5g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0033
ESS Laboratory Sample ID: 23F0033-01
Sample Matrix: Soil
Units: mg/kg wet
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1,1-Trichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1,2,2-Tetrachloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1,2-Trichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1-Dichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1-Dichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1-Dichloropropene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2,3-Trichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2,3-Trichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2,4-Trichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dibromo-3-Chloropropane	ND (2.00)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,3-Dichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,3-Dichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,4-Dichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
2,2-Dichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
2-Chlorotoluene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
4-Chlorotoluene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Bromochloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Bromodichloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chloroform	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
cis-1,2-Dichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
cis-1,3-Dichloropropene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Dibromochloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Dichlorodifluoromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Hexachlorobutadiene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Methylene Chloride	ND (0.800)		8260B		1	06/02/23 11:56	D3F0038	DF30217

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street
Client Sample ID: 045163-10MORT-DISP
Date Sampled: 05/31/23 10:30
Percent Solids: N/A
Initial Volume: 7.5g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0033
ESS Laboratory Sample ID: 23F0033-01
Sample Matrix: Soil
Units: mg/kg wet
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrachloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
trans-1,2-Dichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
trans-1,3-Dichloropropene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Trichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Trichlorofluoromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Vinyl Chloride	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*104 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*106 %*		*70-130*

Consulting Engineers and Scientists

February 8, 2023
Project 04516-3

Hodan Property Management
105 N. Washington Street
Boston, MA 02114

Ms. Vera Barter:

Re: Indoor Air and Soil Vapor Sampling
105 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air and soil vapor sampling at your property located at 105Washington Street in Somerville, Massachusetts. We are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP). We will also provide you with the results of the indoor air and soil vapor sampling after they are available from the analytical laboratory.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Washington Street\105-107 Washington\105 Washington Redevelopment\Sampling Letters\2023 Feb NOS\105 Washington NOS Feb 2023.docx

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Vera Barter- Hodan Property Management

2. Street Address: 105 Washington Street

City/Town: Boston, MA Zip Code: 02114

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 105 Washington Street

City/Town: Somerville, MA Zip Code: 02145-4400

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☑ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Sub-slab soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

March 31, 2023
Project 04516-3

Ms. Vera Barter
Hodan Property Management
105 Washington Street
Somerville, MA 20143

Dear Ms. Barter:

Re: Indoor Air and Soil Vapor Sampling Results
105 Washington Street
Somerville, Massachusetts

On behalf of the UniFirst Corporation, GEI Consultants, Inc. collected indoor air and soil vapor samples on February 15, 2023 at your property at 105 Washington Street to evaluate the potential for vapor intrusion.

On February 15, 2023, one indoor air sample was collected in the basement and one sample was collected on the first floor. The samples were collected over a 24-hour period. Attached is a summary table of the chemicals detected in the indoor air samples (Table 1), and the laboratory data sheets for the recent sampling.

Tetrachloroethylene (PCE) was detected in both samples. Concentrations of PCE were detected at 1.38 micrograms per meter cubed (µg/m^3) on the first floor, and 0.549 µg/m^3 in the basement. 1,1-Dichloroethane (1,1,-DCA) was detected in the sample collected on the first floor at a concentration of 0.138 µg/m^3; however, the analyte is not considered a site contaminant of concern because it was not detected in the soil vapor samples collected.

GEI collected one soil vapor sample from the previously installed sub-slab monitoring point to evaluate the concentrations of chlorinated VOCs in soil vapor beneath the building. Attached is a summary table of the chemicals detected in the soil vapor samples (Table 2) and the laboratory data sheets for the recent sampling.

Concentrations of PCE were detected above laboratory reporting limits. PCE was detected in sample SV2 at a concentration of 0.658 µg/m; TCE was not detected in the soil vapor sample above the laboratory reporting limit.

The detected indoor air and soil vapor concentrations are below the applicable MassDEP residential and commercial indoor air threshold values and soil vapor screening values. Soil vapor concentrations that are below the soil vapor screening values generally indicate that the vapor intrusion pathway is unlikely to be of concern under current conditions.

GEI recommends collecting an additional round of indoor air samples from the basement and first floor of the building, in May or June 2023 to continue to evaluate the potential for a vapor intrusion pathway. GEI also recommends collecting an additional round of soil vapor samples coincident with the indoor air sampling.

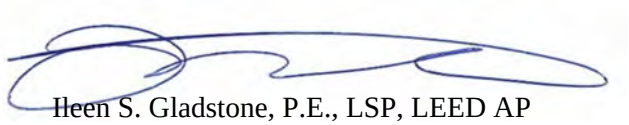
GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403(9) and 40.1404). The property owner may also request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any questions regarding the sampling results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
Enclosures

c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

Table 1 - Chemical Testing Results - Indoor Air
105 Washington Street
Somerville, Massachusetts

	Sample Location:	Basement						First Floor			
	Sample Name:	105WASH-B1		105WASH-B2		105WASH-B1		105WASH-FF1		105WASH-FF1	
	Sample Date:	3/15/22		3/15/22		2/15/23		3/15/22		2/15/23	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**										
Volatile Organic Compounds (VOCs)	TO-15										
1,1-Dichloroethane		0.247	0.061	0.113	0.028	<0.081	<0.020	0.267	0.066	0.138	0.034
Tetrachloroethylene (PCE)		1.15	0.169	0.57	0.084	0.549	0.081	1.05	0.155	1.38	0.203
Trichloroethylene (TCE)		0.247	0.027	<0.107	<0.020	<0.107	<0.020	0.14	0.026	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Results highlighted are the most recent samples collected.

Table 2 - Chemical Testing Results - Sub-Slab Soil Vapor
105 Washington Street
Somerville, Massachusetts

	Location Name:	105 Washington Street							
	Sample Name:	105Wash-SV1		105Wash-SV2		105Wash-SV2		105Wash-SV2	
	Sample Date:	8/4/2021		8/4/2021		3/15/2022		2/15/2023	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**								
Volatile Organic Compounds (VOCs)	TO-15								
Tetrachloroethylene (PCE)		132	19.5	110	16.2	4.69	0.691	0.658	0.097
Trichloroethylene (TCE)		8.44	1.57	8.97	1.67	<1.07	<0.200	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Results highlighted are the most recent samples collected.

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2309056-01
Client ID: 045163-105WASH-SV2
Sample Location: SOMERVILLE, MA

Date Collected: 02/15/23 11:45
Date Received: 02/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/01/23 06:10
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.097	0.020	--	0.658	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2309058-01
Client ID: 045163-105WASH-B1
Sample Location: SOMERVILLE, MA

Date Collected: 02/15/23 10:30
Date Received: 02/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 02/28/23 21:51
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.081	0.020	--	0.549	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2309058-02
Client ID: 045163-105WASH-FF1
Sample Location: SOMERVILLE, MA

Date Collected: 02/15/23 10:10
Date Received: 02/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 02/28/23 22:30
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	0.034	0.020	--	0.138	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.203	0.020	--	1.38	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Consulting Engineers and Scientists

May 3, 2023
Project 04516-3

Ms. Vera Barter
Hodan Property Management
105 Washington Street
Somerville, MA 02143

Ms. Vera Barter:

Re: Indoor Air and Soil Vapor Sampling
105 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air and soil vapor sampling at your property located at 105 Washington Street in Somerville, Massachusetts. Prior to sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP). We will also provide you with the results of the indoor air and soil vapor sampling after they are available from the analytical laboratory.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Washington Street\105-107 Washington\105 Washington Redevelopment\Sampling Letters\2023 May NOS\105 Washington NOS May 2023.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Vera Barter- Hodan Property Management
2. Street Address: 105 Washington Street

City/Town: Somerville, MA Zip Code: 02143

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 105 Washington Street

City/Town: Somerville, MA Zip Code: 02145-4400

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☑ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Sub-slab soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP
Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive
City/Town: Woburn, MA Zip Code: 01801-3341
Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

May 3, 2023
Project 04516-3

Ms. Vera Barter
Hodan Property Management
105 Washington Street
Somerville, MA 02143

Ms. Vera Barter:

Re: Indoor Air, Soil Vapor Point Installation and Soil Vapor Sampling
103 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to install soil vapor points and conduct soil vapor and indoor air sampling at your property located at 103 Washington Street in Somerville, Massachusetts. Prior to sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP). We will also provide you with the results of the soil vapor sampling after they are available from the analytical laboratory.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Washington Street\103 Washington\103 Washington St Redevelopment\Sampling Letters\May 2023 Sampling NOS\103 Washington NOS May 2023.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Vera Barter- Hodan Property Management
2. Street Address: 105 Washington Street

City/Town: Somerville, MA Zip Code: 02143

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 103 Washington Street

City/Town: Somerville, MA Zip Code: 02145-4400

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☑ commercial ☐ industrial ☐ school/playground ☐ Other_____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor air, soil vapor point installation, and sub-slab soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

July 13, 2023
Project 04516-3

Ms. Vera Barter
Hodan Property Management
105 Washington Street
Somerville, MA 02143

Ms. Vera Barter:

Re: Indoor Air and Soil Vapor Sampling
103 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct soil vapor and indoor air sampling at your property located at 103 Washington Street in Somerville, Massachusetts. Following sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP). We will also provide you with the results of the soil vapor sampling after they are available from the analytical laboratory.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/COC:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Washington Street\103 Washington\103 Washington St Redevelopment\Sampling Letters\3. July 2023 Sampling NOS\103 Washington NOS July 2023.docx

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Vera Barter- Hodan Property Management

2. Street Address: 105 Washington Street

City/Town: Somerville, MA Zip Code: 02143

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 103 Washington Street

City/Town: Somerville, MA Zip Code: 02145-4400

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling ~~will be~~/has been conducted:

☑ residential ☑ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor air and sub-slab soil vapor sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

April 10, 2023
Project 04516-3

Ms. Jhanvi Nimbark
Sanctuary Condominium Trust
Charlesgate
867 Boylston Street
Boston, MA 02116

Dear Ms. Nimbark:

Re: Groundwater Sampling
60 Tufts Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at your property located at 60 Tufts Street in Somerville, Massachusetts. Prior to groundwater sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Jhanvi Nimbark

2. Street Address: Sanctuary Condominium Trust, Charlesgate, 867 Boylston St

City/Town: Boston, MA Zip Code: 02116

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 60 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4110

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other Condominiums (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Semi-Annual Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

April 10, 2023
Project 04516-3

Ms. Kimberly Wells
City Clerk
93 Highland Avenue, 1st Floor
Somerville, MA 02143

Dear Ms. Wells:

Re: Groundwater Sampling
Certain "Public Ways", 90 Washington Street Redevelopment and
Michael E. Capuano Early Childhood Center
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at the Capuano Early Childhood Center, 90 Washington Street Redevelopment, and on certain public ways in Somerville, Massachusetts. Prior to groundwater sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
Enclosure
c: Dr. Jeff Curley, Interim Superintendent
Felix Caraballo, Principal
Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Mr. Vithal V. Deshpande, City of Somerville

2. Street Address: City Hall Annex, 50 Evergreen Avenue

City/Town: Somerville, MA Zip Code: 02145-2819

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: Capuano Center, 90 Washington Street, Somerville City Streets

City/Town: Somerville, MA Zip Code: 02145

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☐ residential ☐ commercial ☐ industrial ☑ school/playground ☑ Other City Streets (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Semi-Annual Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Consulting Engineers and Scientists

July 13 2023
Project 04516-3

Ms. Jhanvi Nimbark
Sanctuary Condominium Trust
Charlesgate
867 Boylston Street
Boston, MA 02116

Dear Ms. Nimbark:

Re: Groundwater Sampling Results
60 Tufts Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, GEI Consultants, Inc. is providing results of the groundwater sampling conducted at 60 Tufts Street on April 18, 2023. The sampling was conducted as part of our investigation related to the site at 50 Tufts Street in Somerville, Massachusetts. We collected one groundwater sample from monitoring well MW202, located on your property.

The groundwater samples were submitted for chemical testing for volatile organic compounds (VOCs). We have attached a summary table of the chemicals detected in the groundwater samples along with the previous sampling results, and the laboratory data sheets for the recent sampling.

Thank you for permitting GEI to conduct groundwater sampling at your property.

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403(9) and 40.1404). The property owner may also request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any immediate questions regarding the water testing results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF:jam
Enclosure
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Jhanvi Nimbark

2. Street Address: Sanctuary Condominium Trust, Charlesgate, 867 Boylston St

City/Town: Boston, MA Zip Code: 02116

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 60 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4110

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling ~~will be~~/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other Condominiums (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Semi-Annual Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	MW202															
		Sample Name:	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
		Well Screen Interval (ft bgs):	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5
		Sample Date:	7/19/07	10/12/07	1/11/08	4/15/08	7/15/08	10/21/08	1/13/09	4/15/09	7/14/09	10/14/09	4/12/10	4/22/11	4/17/12	4/23/13	5/1/14	4/2/15
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																
Volatile Organic Compounds (VOCs)																		
Acetone	8260	µg/l	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10
Benzene			NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			0.50 J	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0	< 1.0	3.1	5.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2	< 1.0	< 1.0	< 1.0	15.5	< 1.0	2.4	0.93 J	0.92 J
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 50	<25
Ethylbenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0
Methylene chloride			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0
Tetrachloroethylene (PCE)			17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5	52.6	61.8	84.9	86.5	20.6	37.0	31.4	28.1
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7	6.6	14.3 J+	16.8	18.6	2.8	5.2	6.9	7.4
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+	7.2	9.8	12.9	8.2	1.5	2.5	1.5	1.4
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	MW202							
		Sample Name:	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202
		Well Screen Interval (ft bgs):	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5
		Sample Date:	4/29/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**								
Volatile Organic Compounds (VOCs)										
Acetone	8260	µg/l	9.7	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	0.46 J	1.1	1.5	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			<25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 1.0	<1.0	<1.0	1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			40.8	20.0	39.4	68.9	20.0	14.0	5.4	12.0
Tetrahydrofuran			< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			7.1	3.5	8.1	9.8	2.7	1.7	<1.0	1.2
1,1,2-Trichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			1.5	0.81 J	1.5	2.2	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-05
Client ID: 045163-MW202
Sample Location: SOMERVILLE, MA
Date Collected: 04/18/23 09:55
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 17:32
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	12		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	1.2		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-05 Date Collected: 04/18/23 09:55

Client ID: 045163-MW202 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-05 Date Collected: 04/18/23 09:55

Client ID: 045163-MW202 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	107		70-130

Consulting Engineers and Scientists

July 13, 2023
Project 04516-3

Ms. Christine Blais
Director of Sustainability and Environment
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Ms Blais:

Re: Groundwater Sampling Results
Certain "Public Ways" and
Michael E. Capuano Early Childhood Center
Somerville, Massachusetts
MassDEP RTN 3-23246

On behalf of UniFirst Corporation, GEI Consultants, Inc. is providing results for groundwater samples collected on April 17, April 18 and May 11, 2023 from groundwater monitoring wells located on municipal property. The sampling was conducted as part of our investigation related to the site at 50 Tufts Street in Somerville, Massachusetts. We:

- Collected groundwater samples from five shallow monitoring wells (MW118S, MW119S, MW120S, MW121S, and MW122), two monitoring wells screened in till (MW118T and MW119T), and four monitoring wells screened in bedrock (MW118D, MW120D, MW121D and MW116) on April 17 and 18, 2023. We collected one duplicate sample (MW900) from MW116.
- Collected groundwater samples from one shallow monitoring well (MW112A) on May 11, 2023.

Groundwater samples were submitted for chemical testing for volatile organic compounds (VOCs) and one groundwater sample (MW112A) was also tested for manganese and general chemistry compounds including alkalinity, chloride, nitrates, and sulfates. We have attached a summary table of the chemicals detected in the groundwater samples along with the previous sampling results, the laboratory data sheets for the recent sampling, and a figure showing the sampling locations.

Thank you for permitting GEI to conduct groundwater sampling at the Capuano Early Childhood Center, 90 Washington Street, and on certain public ways in Somerville, Massachusetts.

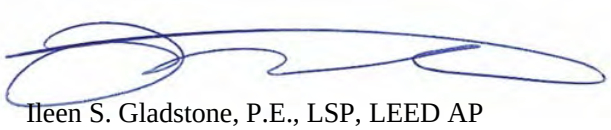
Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403[9] and 40.1404). The property owner may also request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

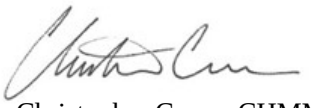
We appreciate your continued cooperation throughout the sampling process. If you have any immediate questions regarding the water testing results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President



Christopher Coner, CHMM
Project Manager

MEG/CMM/JDR/ISG:jam
Enclosures
c: Dr. Jeff Curley, Interim Superintendent
Felix Caraballo, Principal
Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Mr. Vithal V. Deshpande, City of Somerville

2. Street Address: City Hall Annex, 50 Evergreen Avenue

City/Town: Somerville, MA Zip Code: 02145-2819

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: Capuano Center, 90 Washington Street, Somerville City Streets

City/Town: Somerville, MA Zip Code: 02145

2. MCP phase of work during which the sampling ~~will be~~/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling ~~will be~~/has been conducted:

☐ residential ☐ commercial ☐ industrial ☑ school/playground ☑ Other City Streets (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Semi-Annual Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

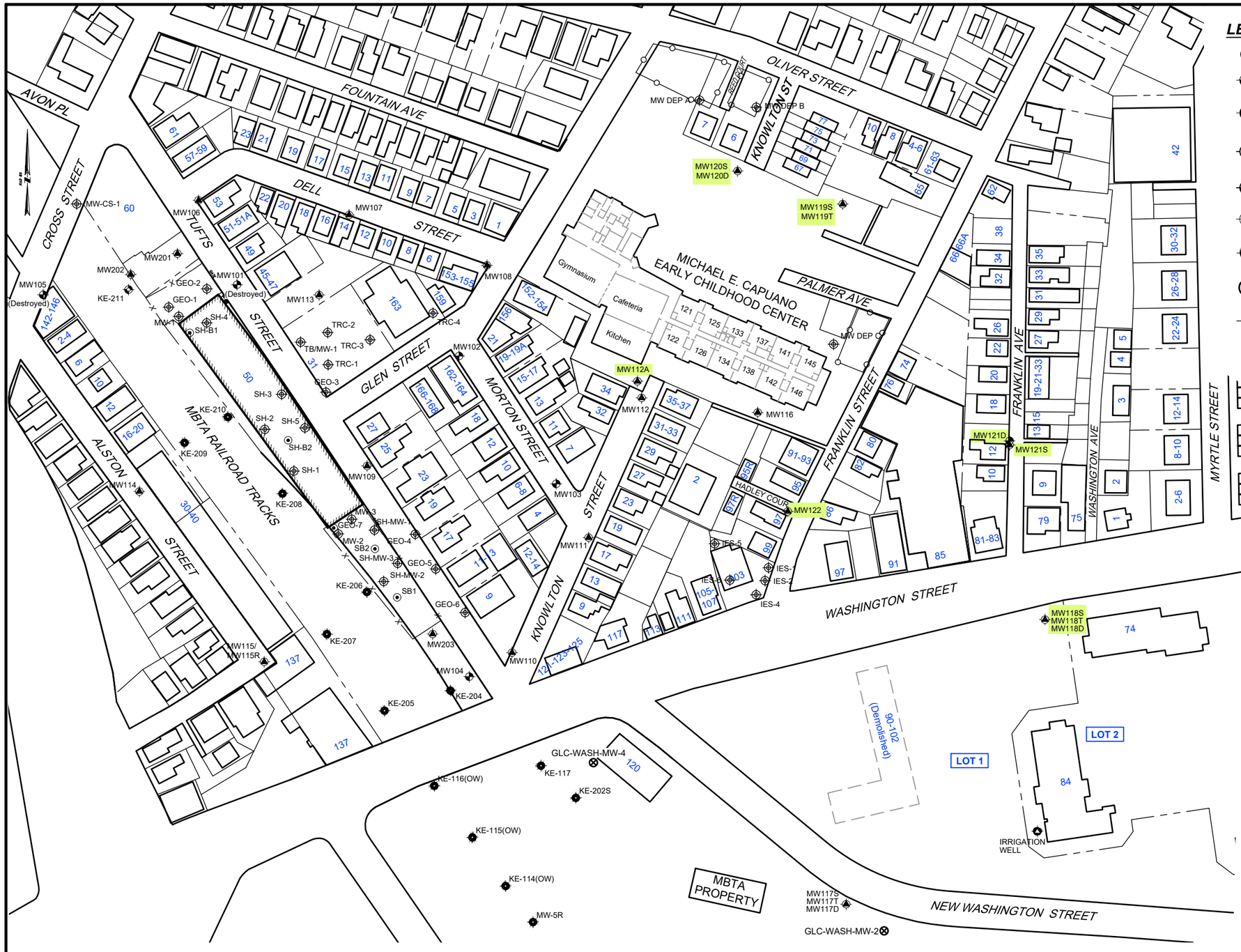
When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- MONITORING WELL SAMPLED BY GEI DURING THIS REPORTING PERIOD

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET PROPERTY LINES, AND BUILDINGS ARE BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

MONITORING WELL LOCATIONS

Project 04516-3 | June 2023 | Fig. 1

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163 LOL MW Loc

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A																																
Sample Name:			MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10	4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13	4/24/13	11/18/13	6/11/14	11/18/14	4/17/15	4/17/15
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																	
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20	< 10 K-	< 10 K-	< 10	< 10	< 10
Benzene			< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0
Chloroform			0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0	73.5	18.3	64.1 G K-	23.2	25.2	
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0	86.5	38.5	109 K+	39	42.9	
cis-1,2-Dichloroethylene			< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145	112	209	150	321	71.1	84.1	
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50	< 50	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1	64.6	4.6	47.3 K+	11.9	13.9	
Methylene chloride			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339	581	371	266	398	303	300	
Tetrahydrofuran			< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20	< 10	< 10	< 10	< 10	< 10
Toluene			0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5	8.0	1.5	3.6	1.3	1.4	
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0	140	146	82.0	117	71	73	
Vinyl chloride			0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	4.4	0.90 J	< 1.0	0.77 J G K-	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																					NT			NT			NT						NT		NT		
Iron																					< 0.10 J+			NT			< 100						NT		NT		
Manganese																					875			1570			954						1470		909		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			0.18 J B			< 0.30			0.66			0.10 J			< 10		< 10		
Ethane	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10			< 10		< 10		
Ethylene	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10			< 10		< 10		
Alkalinity	E310.1	µg/l																			233000			252000			245000			278000			285000		266000		
Chloride	E325.3	µg/l																			810000			915000			655000			857000			815000		700000		
Chlorine, Total Residual	E330.4	µg/l																			< 50 A			< 50			< 50 A			< 50 A F- J			< 50 A				
Iron, Ferrous	3500FE B	µg/l																			NT			NT			NT			NT			< 100		< 100		
Nitrate & Nitrite as N	E353.2	µg/l																			4700			3500			2600			1300			650		1200		
Nitrogen, Nitrate	E353.2	µg/l																			4700			3500			2600			1300			650		1200		
Nitrogen, Nitrite	E354.1	µg/l																			11			< 10			< 10			< 10			< 10		< 10		
Sodium	6010C	µg/l																			NT			NT			NT			NT			NT		NT		
Sulfate	E375.4	µg/l																			57100			52200			66100			68000			90900		63100		
Sulfide	E376.1	µg/l																			< 2000			< 2000			< 2000			< 2000			< 2000				
Surfactants	E425.1	µg/l																			< 100			< 100			< 100			< 100			< 100		< 100		
Total Organic Carbon	E415.1	µg/l																			1200			1100			< 1000			1500			< 1000		< 5000		

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A															
Sample Name:			MW112A 4 to 19 4/28/16 GEI	MW112A 4 to 19 11/21/16 GEI	MW112A 4 to 19 4/18/17 GEI	MW901 (FD) 4 to 19 4/18/2017 GEI	MW112A 4 to 19 11/10/2017 GEI	MW112A 4 to 19 4/4/2018 GEI	MW112A 4 to 19 11/15/2018 GEI	MW112A 4 to 19 4/15/2019 GEI	MW112A 4 to 19 11/22/2019 GEI	MW112A 4 to 19 4/16/2020 GEI	MW112A 4 to 19 11/18/2020 GEI	MW112A 4 to 19 4/13/2021 GEI	MW112A 4 to 19 11/30/2021 GEI	MW112A 4 to 19 4/14/2022 GEI	MW112A 4 to 19 11/29/2022 GEI	MW112A 4 to 19 5/11/2023 GEI
Well Screen Interval (ft bgs):																		
Sample Date:																		
Collected By:																		
Analyte	**Method**	**Units**																
Volatile Organic Compounds (VOCs)																		
Acetone	8260	µg/l	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<10
Benzene			< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	<1.3	<1.3	<1.3	<0.50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<1
Bromodichloromethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
2-Butanone (MEK)			< 5.0	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	<5
Carbon disulfide			< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<2
Carbon tetrachloride			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<1
Chlorobenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Chloroethane			< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4
Chloroform			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Chloromethane			< 2.0	< 2.0	<2.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4
1,4-Dichlorobenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,1-Dichloroethane			14.1	77	34.1	30.1	88.1	25.3	25.3	38.5	36.9	51	48	40	35	24	35	50
1,2-Dichloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,1-Dichloroethylene			21.5	132	47.7	43.0	92.5	33.0	33.0	57.3	63.1	79	98	58	63	45	67	27
cis-1,2-Dichloroethylene			108	230	78.2	71.8	155	98.5	98.5	60.6	131.0	72	130	62	120	85	68	100
trans-1,2-Dichloroethylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,2-Dichloropropane			< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,4-Dioxane			< 25	< 50	<130	<130	< 250	<310	<310	<310	<130	<1200	<1200	<1200	<1200	<1200	<1200	<500
Ethylbenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
2-Hexanone			< 5.0	< 10	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<25	<25	<25	<25	<25	<25	<10
4-Isopropyltoluene			< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4
Methyl tert-butyl ether			3.9	53.9	11.6	11.4	56	19.1	19.1	25.9	21.7	27	30	19	12	5	13	10
Methylene chloride			< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4
Naphthalene			< 5.0	< 5.0	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<10	<10	<10	<10	<10	<10	<4
Tert-amyl methyl ether			< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	<4
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Tetrachloroethylene (PCE)			258	508	435	404	908	317	317	555	463	750	760	630	460	370	560	300
Tetrahydrofuran			< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<10	<10	<10	<10	<10	<10	<4
Toluene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
1,1,1-Trichloroethane (TCA)			1.7	6.5	4.1	3.6	11.4	3.6	3.6	5.4	5.0	7.5	7.8	7.0	5.1	3.0	<5	4.1
1,1,2-Trichloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Trichloroethylene (TCE)			61.3	220.0	118.0	107	247	92.3	92.3	136	136	180	190	140	130	95	140	170
Vinyl chloride			< 1.0	1.3	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	1.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
m,p-Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	<4
o-Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Total Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<2
Metals (Total)	6010B	µg/l		NT		NT	NT		NT		NT		NT		NT		NT	NT
Arsenic			NT		NT			NT		NT		NT		NT		NT		
Iron			NT		NT			NT		NT		NT		NT		NT		
Manganese			1530		627			2620		3360		2600		2550		635		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT
Iron										NT		NT						
Others				NT		NT	NT		NT		NT		NT		NT	NT	NT	
Methane	8015	µg/l	< 10		<10			320		6.7		17.6		5.88		2.11		3.94
Ethane	8015	µg/l	< 10		<10			12.2		<0.23		<0.500		<0.500		<0.500		<0.500
Ethylene	8015	µg/l	< 10		<10			<0.31		<0.31		<0.500		<0.500		<0.500		<0.500
Alkalinity	E310.1	µg/l	332000		339000			247000		259000		248000		234000		265000		249000
Chloride	E325.3	µg/l	700000		439000			170000		517000		440000		540000		410000		560000
Chlorine, Total Residual	E330.4	µg/l						280		<100		<20		<20		<20		<20
Iron, Ferrous	3500FE B	µg/l	< 100		<100			<200		<200		<500		<500		<500		<500
Nitrate & Nitrite as N	E353.2	µg/l	490		620			<100		490		330		240		<380		<100
Nitrogen, Nitrate	E353.2	µg/l	490		620			<110		480		334		217		<371		<100
Nitrogen, Nitrite	E354.1	µg/l	< 10		<10			<10		<10		<300		<300		<300		423
Sodium	6010C	µg/l	NT		NT			NT		NT		NT		NT		NT		NT
Sulfate	E375.4	µg/l	117000		71000			59200		551000		50000		50000		60000		44000
Sulfide	E376.1	µg/l						<200		<200		<100		<100		<100		<50
Surfactants	E425.1	µg/l	< 100		<100			<100		<100		<50		<50		<50		70
Total Organic Carbon	E415.1	µg/l	< 1000		<1000			1700		<1000		750		700		750		2600

General Notes:
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Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116																																
Sample Name:			MW116 5 to 15 3/23/07 GEI	MW116 5 to 15 4/16/07 GEI	MW116 5 to 15 7/18/07 GEI	MW901 (FD) 5 to 15 7/18/07	MW116 5 to 15 10/12/07 GEI	MW901 (FD) 5 to 15 10/12/07 GEI	MW116 5 to 15 1/11/08 GEI	MW901 (FD) 5 to 15 1/11/08 GEI	MW116 5 to 15 4/15/08 GEI	MW901 (FD) 5 to 15 4/15/08 GEI	MW116 5 to 15 7/16/08 GEI	MW116 5 to 15 10/21/08 GEI	MW116 5 to 15 1/14/09 GEI	MW116 5 to 15 4/15/09 GEI	MW116 5 to 15 7/14/09 GEI	MW116 5 to 15 10/14/09 GEI	MW116 5 to 15 4/13/10 GEI	MW901 (FD) 5 to 15 4/13/10 GEI	MW116 5 to 15 4/21/11 GEI	MW901 (FD) 5 to 15 4/21/11 GEI	MW116 5 to 15 4/17/12 GEI	MW901 (FD) 5 to 15 4/17/12 GEI	MW116 5 to 15 4/24/13 GEI	MW901 (FD) 5 to 15 4/24/13 GEI	MW116 5 to 15 5/1/14 GEI	MW900 (FD) 5 to 15 5/1/14 GEI	MW116 5 to 15 4/2/15 GEI	MW900 (FD) 5 to 15 4/2/15 GEI	MW116 5 to 15 4/29/16 GEI	MW900 (FD) 5 to 15 4/29/16 GEI	MW116 5 to 15 4/17/17 GEI	MW900 (FD) 5 to 15 4/17/17 GEI	MW116 5 to 15 4/4/18 GEI
Well Screen Interval (ft bgs):																																			
Sample Date:																																			
Collected By:																																			
Analyte	**Method**	**Units**																																	
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	<10	<10	<10
Benzene			0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	<0.50	<0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<10	<10	<10
Carbon disulfide			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			135	4.4	97.3	96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9	38.3	45.0	49.4	49.8	44.1
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			107	2.7	33.8	34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8	27.7	36.4	35.1	34.4	19.7
cis-1,2-Dichloroethylene			103	21.7	415	431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114	111	50.6	59	67.5	67.2	42.6
trans-1,2-Dichloroethylene			1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	<2.0	< 2.0	< 1.0	0.42 J	0.45 J	1.1
1,2-Dichloropropane			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	NT	NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25	< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	<130	<130	<130
Ethylbenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9	< 2.0	0.79 J	1.6	1.6	1.1
Methylene chloride			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0	<5.0	<5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			1180	32.2	167	168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726	695	450	436	482	456	233
Tetrahydrofuran			30.6	13.8	NT	NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20	<20	< 10	<10	<10	<10
Toluene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6	3.8	4.4	3.8	3.7	1.8
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			358	19.4	72.7	73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188	183	113	139	131	129	83.3
Vinyl chloride			14.1	3.2	185	182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8	< 2.0	< 1.0	1.6	1.4	<1.0
m,p-Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
o-Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																			
Iron																																			
Manganese																																			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																	
Ethane	8015	µg/l																																	
Ethylene	8015	µg/l																																	
Alkalinity	E310.1	µg/l																																	
Chloride	E325.3	µg/l																																	
Chlorine, Total Residual	E330.4	µg/l																																	
Iron, Ferrous	3500FE B	µg/l																																	
Nitrate & Nitrite as N	E353.2	µg/l																																	
Nitrogen, Nitrate	E353.2	µg/l																																	
Nitrogen, Nitrite	E354.1	µg/l																																	
Sodium	6010C	µg/l																																	
Sulfate	E375.4	µg/l																																	
Sulfide	E376.1	µg/l																																	
Surfactants	E425.1	µg/l																																	
Total Organic Carbon	E415.1	µg/l																																	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	**MW116**										
		Sample Name:	**MW900 (FD)**	**MW116**	**MW900 (FD)**	**MW116**	**MW900 (FD**	**MW116**	**MW900**	**MW116**	**MW900**	**MW116**	**MW900**
		Well Screen Interval (ft bgs):	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**	**5 to 15**
		Sample Date:	**4/4/18**	**4/16/19**	**4/16/19**	**4/17/20**	**4/17/20**	**4/14/21**	**4/14/21**	**4/14/22**	**4/14/22**	**4/18/23**	**4/18/23**
		Collected By:	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**	**GEI**
Analyte	**Method**	**Units**											
Volatile Organic Compounds (VOCs)													
Acetone	8260	µg/l	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0
Benzene			<0.50	<0.50	<0.50	<2.5	<2.5	<1.2	<1.2	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			<10	<10	<10	<25	<25	<25	<25	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
Chloroethane			<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Chloroform			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
Chloromethane			<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			46.2	22.7	53.9	70	75	39	40	30	29	28	27
1,2-Dichloroethane			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			20.9	9.4	31.3	30	39	27	27	20	20	23	23
cis-1,2-Dichloroethylene			44.2	27.3	112.0	120	130	110	110	140	130	150	150
trans-1,2-Dichloroethylene			1.2	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichloropropane			<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
1,4-Dioxane			<130	<130	<130	<1200	<1200	<620	<620	<250	<250	<250	<250
Ethylbenzene			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
2-Hexanone			<5.0	<5.0	<5.0	<25	<25	<12	<12	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			1.2	<1.0	3.5	<10	<10	<5.0	<5.0	2.3	2.2	2.3	2.2
Methylene chloride			<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			253	129	404	520	550	340	340	120	120	130	130
Tetrahydrofuran			<10	<10	<10	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Toluene			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			2.0	1.0	2.6	<5.0	<5.0	2.6	2.6	3.2	3.2	2.8	2.8
1,1,2-Trichloroethane			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			86.3	37	157	200	220	120	120	35	34	53	54
Vinyl chloride			<1.0	<1.0	20.2	22	29	50	49	130	120	87	86
m,p-Xylene			<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	<1.0	<1.0
Total Xylene			<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<2.0	<2.0	<2.0	<2.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic													
Iron													
Manganese													
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron													
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l											
Ethane	8015	µg/l											
Ethylene	8015	µg/l											
Alkalinity	E310.1	µg/l											
Chloride	E325.3	µg/l											
Chlorine, Total Residual	E330.4	µg/l											
Iron, Ferrous	3500FE B	µg/l											
Nitrate & Nitrite as N	E353.2	µg/l											
Nitrogen, Nitrate	E353.2	µg/l											
Nitrogen, Nitrite	E354.1	µg/l											
Sodium	6010C	µg/l											
Sulfate	E375.4	µg/l											
Sulfide	E376.1	µg/l											
Surfactants	E425.1	µg/l											
Total Organic Carbon	E415.1	µg/l											

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118D																																	
Sample Name:			MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW901 (FD)	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
Well Screen Interval (ft bgs):			70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
Sample Date:			7/20/07	8/30/07	10/11/07	1/16/08	4/16/08	7/16/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/12/2022
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																		
Volatile Organic Compounds (VOCs)			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0
Acetone	8260	µg/l	NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0
2-Butanone (MEK)			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon disulfide			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1	1.1	3.4	3.7	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroform			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			20.3	21.4	31.2	31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9	37.7	34.8	27.4	21.9	20.0	18.6	33.9	44	27	25	22	30
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J	0.78 J	< 1.0	< 1.0	< 1.0	<1.0	2.6	2.4	1.3	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8	8.6	7.9	5	4.3	3.7	3.2	57.3	53	10	5.8	4.7	4.1
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J	0.68 J	< 1.0 K+	0.62 J	2.2	2.9	0.81 J	0.55 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25	< 25	< 50	<130	< 130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250
Ethylbenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3	0.81 J	< 1.0	1.1	1.3	1.3	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			7.0	8.4	8.2	6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8	6.5	5.8	2.7	2.7	1.8	1.6	40.9	38	27	2.2	1.1	<1.0
Tetrahydrofuran			NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene			NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4	3.3	2.6	1.7	1.5	1.5	1.1	11.4	11	7.9	2.7	1.7	<1.0
Vinyl chloride			< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1	0.93 J	2.4	1.9	< 1.0	1.1	11.8	19	3.8	3.3	1.9	<1.0
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT				NT	NT
Arsenic																																				
Iron																																				
Manganese																																				
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																				
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																		
Ethane	8015	µg/l																																		
Ethylene	8015	µg/l																																		
Alkalinity	E310.1	µg/l																																		
Chloride	E325.3	µg/l																																		
Chlorine, Total Residual	E330.4	µg/l																																		
Iron, Ferrous	3500FE B	µg/l																																		
Nitrate & Nitrite as N	E353.2	µg/l																																		
Nitrogen, Nitrate	E353.2	µg/l																																		
Nitrogen, Nitrite	E354.1	µg/l																																		
Sodium	6010C	µg/l																																		
Sulfate	E375.4	µg/l																																		
Sulfide	E376.1	µg/l																																		
Surfactants	E425.1	µg/l																																		
Total Organic Carbon	E415.1	µg/l																																		

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	MW118D	
		Sample Name:	MW118D	MW118D
		Well Screen Interval (ft bgs):	70 to 80	70 to 80
		Sample Date:	11/29/2022	4/17/2023
		Collected By:	GEI	GEI
Analyte	**Method**	**Units**		
Volatile Organic Compounds (VOCs)				
Acetone	8260	µg/l	<5	<5
Benzene			<0.5	<0.5
Bromodichloromethane			<1	<1
2-Butanone (MEK)			<5	<5
Carbon disulfide			<2	<2
Carbon tetrachloride			<1	<1
Chlorobenzene			<1	<1
Chloroethane			<2	<2
Chloroform			<1	<1
Chloromethane			<2	<2
1,4-Dichlorobenzene			<1	<1
1,1-Dichloroethane			29	28
1,2-Dichloroethane			<1	<1
1,1-Dichloroethylene			<1	<1
cis-1,2-Dichloroethylene			3.9	3.4
trans-1,2-Dichloroethylene			<1	<1
1,2-Dichloropropane			<1	<1
1,4-Dioxane			<250	<250
Ethylbenzene			<1	<1
2-Hexanone			<5	<5
4-Isopropyltoluene			<2	<2
Methyl tert-butyl ether			<2	<2
Methylene chloride			<2	<2
Naphthalene			<2	<2
Tert-amyl methyl ether			<2	<2
1,1,1,2-Tetrachloroethane			<1	<1
Tetrachloroethylene (PCE)			1.1	<1
Tetrahydrofuran			<2	<2
Toluene			<1	<1
1,1,1-Trichloroethane (TCA)			<1	<1
1,1,2-Trichloroethane			<1	<1
Trichloroethylene (TCE)			1.1	1.1
Vinyl chloride			2.6	2.6
m,p-Xylene			<2	<2
o-Xylene			<1	<1
Total Xylene			<1	<1
Metals (Total)	6010B	µg/l	NT	NT
Arsenic				
Iron				
Manganese				
Metals (Dissolved)	6010C	µg/l	NT	NT
Iron				
Others			NT	NT
Methane	8015	µg/l		
Ethane	8015	µg/l		
Ethylene	8015	µg/l		
Alkalinity	E310.1	µg/l		
Chloride	E325.3	µg/l		
Chlorine, Total Residual	E330.4	µg/l		
Iron, Ferrous	3500FE B	µg/l		
Nitrate & Nitrite as N	E353.2	µg/l		
Nitrogen, Nitrate	E353.2	µg/l		
Nitrogen, Nitrite	E354.1	µg/l		
Sodium	6010C	µg/l		
Sulfate	E375.4	µg/l		
Sulfide	E376.1	µg/l		
Surfactants	E425.1	µg/l		
Total Organic Carbon	E415.1	µg/l		

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
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7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

			MW118S																							
Sample Location:																										
Sample Name:			MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Well Screen Interval (ft bgs):			3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
Sample Date:			7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/09	7/15/09	10/14/09	4/12/10	4/20/11	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	4/17/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	40	<5.0	<5.0	<5.0
Benzene			NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3	<2.0	<2.0	3.1	<2.0	<2.0
Methyl tert-butyl ether			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
Total Organic Carbon	E415.1	µg/l																								

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
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5. SHA = Sanborn Head & Associates.
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7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
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G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
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R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
Sample Name:			MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
Well Screen Interval (ft bgs):			39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5
Sample Date:			7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09	7/14/09	10/15/09	4/12/10	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19	4/17/20	4/13/21	4/12/22	4/17/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																									
Volatile Organic Compounds (VOCs)																											
Acetone	8260	µg/l	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8	35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8	23	16	1.5	15
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0	2.1	<2.0	<2.0	<2.0
Methylene chloride			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0	1.4	1.1	<1.0	1.0
Tetrahydrofuran			NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																											
Iron																											
Manganese																											
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																											
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																									
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Ethylene	8015	µg/l																									
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Chloride	E325.3	µg/l																									
Chlorine, Total Residual	E330.4	µg/l																									
Iron, Ferrous	3500FE B	µg/l																									
Nitrate & Nitrite as N	E353.2	µg/l																									
Nitrogen, Nitrate	E353.2	µg/l																									
Nitrogen, Nitrite	E354.1	µg/l																									
Sodium	6010C	µg/l																									
Sulfate	E375.4	µg/l																									
Sulfide	E376.1	µg/l																									
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Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	MW119S																								
		Sample Name:	MW119S 5 to 20 8/22/07 GEI	MW119S 5 to 20 10/12/07 GEI	MW119S 5 to 20 1/15/08 GEI	MW119S 5 to 20 4/16/08 GEI	MW119S 5 to 20 7/15/08 GEI	MW119S 5 to 20 10/22/08 GEI	MW119S 5 to 20 1/13/09 GEI	MW119S 5 to 20 4/13/09 GEI	MW119S 5 to 20 7/15/09 GEI	MW119S 5 to 20 10/15/09 GEI	MW119S 5 to 20 4/13/10 GEI	MW119S 5 to 20 4/22/11 GEI	MW119S 5 to 20 4/16/12 GEI	MW119S 5 to 20 4/23/13 GEI	MW119S 5 to 20 5/1/14 GEI	MW119S 5 to 20 4/2/15 GEI	MW119S 5 to 20 4/28/16 GEI	MW119S 5 to 20 4/18/17 GEI	MW119S 5 to 20 4/3/18 GEI	MW119S 5 to 20 4/16/19 GEI	MW119S 5 to 20 4/17/20 GEI	MW119S 5 to 20 4/14/21 GEI	MW119S 5 to 20 4/13/22 GEI	MW119S 5 to 20 4/17/23 GEI
		Well Screen Interval (ft bgs):																									
		Sample Date:																									
		Collected By:																									
Analyte	**Method**	**Units**																									
Volatile Organic Compounds (VOCs)																											
Acetone	8260	µg/l	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			5.2 J+	2.0	2.1	0.83 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																											
Iron																											
Manganese																											
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																											
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																									
Ethane	8015	µg/l																									
Ethylene	8015	µg/l																									
Alkalinity	E310.1	µg/l																									
Chloride	E325.3	µg/l																									
Chlorine, Total Residual	E330.4	µg/l																									
Iron, Ferrous	3500FE B	µg/l																									
Nitrate & Nitrite as N	E353.2	µg/l																									
Nitrogen, Nitrate	E353.2	µg/l																									
Nitrogen, Nitrite	E354.1	µg/l																									
Sodium	6010C	µg/l																									
Sulfate	E375.4	µg/l																									
Sulfide	E376.1	µg/l																									
Surfactants	E425.1	µg/l																									
Total Organic Carbon	E415.1	µg/l																									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119T																							
Sample Name:			MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T
Well Screen Interval (ft bgs):			42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47
Sample Date:			8/22/07	10/12/07	1/16/08	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	4/17/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			9.2 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			10.4 J+	11.0	10.9	10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2	9.4	6.4	5.9	5.6	5.9	4.4	4.9	4.0	1.8	4.3	2.7	1.1	2.6
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			2.0 J+	6.4	6.0	6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4	7.0	4.4	4.2	4.1	4.5	3.4	3.7	2.4	<1.0	3.3	1.9	<1.0	2.6
cis-1,2-Dichloroethylene			0.54 J J+	1.2	1.1	1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0	< 1.0	0.95 J	0.80 J	< 1.0	0.70 J	0.65 J	0.82 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			4.1 J+	0.66 J	0.64 J	0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	9.1 K-	1.5	0.98 J	< 1.0	0.55 J	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			94.3 J+	105	85.0	86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4	74.6	75.1	68.5	56.4	54.5	55.7	50.6	33.0	2.6	52.0	32.0	3.1	36
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	0.69 J	0.52 J	2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	0.25 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			25.9 J+	29.6	26.7	26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1	23.2	21.0	21.3	16.8	20.2	18.3	17.6	12.8	2.5	17.0	10.0	1.6	10.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
Total Organic Carbon	E415.1	µg/l																								

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW120D																							
Sample Name:			MW120D	MW120D	MW120D	MW1120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D
Well Screen Interval (ft bgs):			28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38
Sample Date:			8/22/07	10/12/07	1/17/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	12.8	3.1	16.0	12.0	3.8	1.7
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	14.1	1.3	14	10	1.6	1.6
cis-1,2-Dichloroethylene			0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	49.9	7.7	59.0	36.0	6.5	5.2
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	1.1	<1.0	1.2	1.2	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	18.6	3.4	21.0	14.0	2.9	2.0
Vinyl chloride			< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
Total Organic Carbon	E415.1	µg/l																								

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW120S																							
Sample Name:			MW120S	MW120S	MW120S	MW1120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	4/18/23
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																								
Volatile Organic Compounds (VOCs)																										
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	5.3	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			0.56 J J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			1.9 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			10.3 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			1.1 J+	4.3	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	0.97 J	< 1.0	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																										
Iron																										
Manganese																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																										
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																								
Ethane	8015	µg/l																								
Ethylene	8015	µg/l																								
Alkalinity	E310.1	µg/l																								
Chloride	E325.3	µg/l																								
Chlorine, Total Residual	E330.4	µg/l																								
Iron, Ferrous	3500FE B	µg/l																								
Nitrate & Nitrite as N	E353.2	µg/l																								
Nitrogen, Nitrate	E353.2	µg/l																								
Nitrogen, Nitrite	E354.1	µg/l																								
Sodium	6010C	µg/l																								
Sulfate	E375.4	µg/l																								
Sulfide	E376.1	µg/l																								
Surfactants	E425.1	µg/l																								
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General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
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3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

			MW121D																												
Sample Location:																															
Sample Name:			MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW900 (FD)	MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
Well Screen Interval (ft bgs):			32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:			10/22/07	1/15/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/17	11/8/17
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10	< 10	< 10	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			46.3	55.3	46.6	37.2	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9	65.8	67.7	49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0	32.0	47.6	
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0	24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9	14.8	15.3	
cis-1,2-Dichloroethylene			3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106	253	279	217	178	122	193	67.2	133	316	186	73.6	108	271	79.9	119	
trans-1,2-Dichloroethylene			< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1	0.37 J	< 1.0	
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25 K-	< 25 K-	<25	<25	<25	< 50	< 130	< 130	
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 1.0	
Methyl tert-butyl ether			3.0	3.8	2.4	2.1	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J	2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7	1.4	1.4	
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethylene (PCE)			182	258	177	157	154	148 G	97.7 G	112	114	121	118	140	139	115	119	219	356	223	276	124	163	224	216	216	227	139	160	242	
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
Toluene			0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.2	1.3	1.2	1.1	1.0	4.9	4.6	0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0	< 1.0	0.62 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0	0.45 J	< 1.0	
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			59.6	136	68.8	71.0	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3	233.0	342	207	342	115	236	432	266	148	262	176	159	310	
Vinyl chloride			0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0	7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3	6.6	10.4	
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Chlorine, Total Residual	E330.4	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Sulfide	E376.1	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

			Sample Location:	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
			Sample Name:	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
			Well Screen Interval (ft bgs):	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
			Sample Date:	4/3/18	11/15/18	4/15/19	11/22/19	4/16/20	11/18/20	4/13/21	11/30/21	4/13/22	11/29/22	4/18/23
			Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**												
Volatile Organic Compounds (VOCs)														
Acetone	8260	µg/l		< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5
Benzene				< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5
Bromodichloromethane				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
2-Butanone (MEK)				< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5
Carbon disulfide				< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
Carbon tetrachloride				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Chlorobenzene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Chloroethane				< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
Chloroform				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Chloromethane				< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
1,4-Dichlorobenzene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
1,1-Dichloroethane				14.8	14.0	18.8	18.0	16	12	18	18	18	38	24
1,2-Dichloroethane				< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
1,1-Dichloroethylene				7.6	7.0	7.7	8.7	8.6	8.0	7.5	6.3	2.3	7.3	5.5
cis-1,2-Dichloroethylene				24.8	44.3	73.5	85.4	20	26	37	18	33	11	17
trans-1,2-Dichloroethylene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
1,2-Dichloropropane				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
1,4-Dioxane				< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	<250
Ethylbenzene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
2-Hexanone				< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5
4-Isopropyltoluene				<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
Methyl tert-butyl ether				<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.3
Methylene chloride				<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
Naphthalene				< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
Tert-amyl methyl ether				< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
1,1,1,2-Tetrachloroethane				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Tetrachloroethylene (PCE)				78	47.5	48.2	64.8	87	58	72	52	1.9	54	35
Tetrahydrofuran				< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
Toluene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
1,1,1-Trichloroethane (TCA)				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
1,1,2-Trichloroethane				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Trichloroethylene (TCE)				39.7	23.5	31.1	40.0	34	22	40	27	5	32.0	20.0
Vinyl chloride				<1.0	6.1	9	4.5	<1.0	2.0	1.5	1.0	31.0	3.0	8.6
m,p-Xylene				< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2
o-Xylene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Total Xylene				< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1
Metals (Total)	6010B	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic														
Iron														
Manganese														
Metals (Dissolved)	6010C	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron														
Others				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l												
Ethane	8015	µg/l												
Ethylene	8015	µg/l												
Alkalinity	E310.1	µg/l												
Chloride	E325.3	µg/l												
Chlorine, Total Residual	E330.4	µg/l												
Iron, Ferrous	3500FE B	µg/l												
Nitrate & Nitrite as N	E353.2	µg/l												
Nitrogen, Nitrate	E353.2	µg/l												
Nitrogen, Nitrite	E354.1	µg/l												
Sodium	6010C	µg/l												
Sulfate	E375.4	µg/l												
Sulfide	E376.1	µg/l												
Surfactants	E425.1	µg/l												
Total Organic Carbon	E415.1	µg/l												

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW121S																						
Sample Name:			MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			10/22/07	1/15/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	4/23/13	4/30/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/13/22	4/13/22
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																							
Volatile Organic Compounds (VOCs)																									
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25 K-	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																									
Iron																									
Manganese																									
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																									
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																							
Ethane	8015	µg/l																							
Ethylene	8015	µg/l																							
Alkalinity	E310.1	µg/l																							
Chloride	E325.3	µg/l																							
Chlorine, Total Residual	E330.4	µg/l																							
Iron, Ferrous	3500FE B	µg/l																							
Nitrate & Nitrite as N	E353.2	µg/l																							
Nitrogen, Nitrate	E353.2	µg/l																							
Nitrogen, Nitrite	E354.1	µg/l																							
Sodium	6010C	µg/l																							
Sulfate	E375.4	µg/l																							
Sulfide	E376.1	µg/l																							
Surfactants	E425.1	µg/l																							
Total Organic Carbon	E415.1	µg/l																							

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 1. Chemical Testing Results - GEI Groundwater Sampling
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW122																																				
Sample Name:			MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):			4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	7 to 16	10 to 14	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:			1/30/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/15/09	10/14/09	4/12/10	10/27/10	4/20/11	11/16/11	4/17/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/16/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/13/2022	11/29/2022	4/17/2023
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																						
Volatile Organic Compounds (VOCs)																																								
Acetone	8260	µg/l	< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<25	<100	<100	<50	<50
Benzene			< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5	< 0.50	<2.5	<2.5	<1.0	<2.5	<5.0	<5.0	<2.5	<10	<10	<5	<5
Bromodichloromethane			< 1.0	1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
2-Butanone (MEK)			< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50	< 10	<50	<50	<20	<50	<50	<50	<50	<100	<100	<50	<50
Carbon disulfide			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<5	<40	<40	<20	<20
Carbon tetrachloride			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	<10
Chlorobenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Chloroethane			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20
Chloroform			< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Chloromethane			< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20
1,4-Dichlorobenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	<10
1,1-Dichloroethane			19.3	30.4 C+	10.1	15.0	16.0	25.8	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9	14.8	22.7	17.0	18.8	16.4	29	48	44	46	35	24	18
1,2-Dichloroethane			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
1,1-Dichloroethylene			4.0	9.0 C+	1.4	4.4	3.4	6.1	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7	3.9	8.1	7.3	6.1	6.9	<10	12	6.9	<20	<20	<10	<10
cis-1,2-Dichloroethylene			60.6	70.7 C+	34.0	62.5	91.5	61.9	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2	50	64.4	71.0	69.1	95.8	150	150	110	130	130	180	110
trans-1,2-Dichloroethylene			0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
1,2-Dichloropropane			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
1,4-Dioxane			< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 50	< 25	< 25 K-	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630	< 130	<630	<630	<250	<630	<2500	<2500	<1200	<5000	<5000	<2500	<2500
Ethylbenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
2-Hexanone			< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25	< 5.0	<25	<25	<2.0	<25	<50	<50	<25	<100	<100	<50	<50
4-Isopropyltoluene			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	<20
Methyl tert-butyl ether			3.3	3.9 C+	1.9	5.6	2.5	3.2	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7	1.1	<5.0	<5.0	2.1	<5.0	<20	<20	<10	<40	<40	<20	<20
Methylene chloride			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10	< 2.0	<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	<20
Naphthalene			< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0	<25	<25	<10	<25	<20	<20	<10	<40	<40	<20	<20
Tert-amyl methyl ether			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 2.0	<10	<10	<4.0	<10	<20	<20	<10	<40	<40	<20	<20
1,1,1,2-Tetrachloroethane			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	<2.0	<2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
Tetrachloroethylene (PCE)			477	691 C+	122	352 G	312	499 G	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910	579	959	1150	1060	961	1200	1400	820	1600	1700	1200	1700
Tetrahydrofuran			< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50	< 10	<50	<50	<2.0	<50	<20	<20	<10	<40	<40	<20	<20
Toluene			0.48 J	< 2.0	2.8	3.7	0.64 J	2.4	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0	20.7	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
1,1,1-Trichloroethane (TCA)			1.4	3.4 C+	0.63 J	5.1	1.1	1.7	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
1,1,2-Trichloroethane			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	<10
Trichloroethylene (TCE)			177	106 C+	27.0	56.9	59.6	91.7	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0	63.3	110.0	122	121	131	140	170	130	220	210	160	170
Vinyl chloride			0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0	1.3	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
m,p-Xylene			< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	<20
o-Xylene			< 1.0	< 2.0	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Total Xylene			< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	<10
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																								
Iron																																								
Manganese																																								
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																								
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																						
Ethane	8015	µg/l																																						
Ethylene	8015	µg/l																																						
Alkalinity	E310.1	µg/l																																						
Chloride	E325.3	µg/l																																						
Chlorine, Total Residual	E330.4	µg/l																																						
Iron, Ferrous	3500FE B	µg/l																																						
Nitrate & Nitrite as N	E353.2	µg/l																																						
Nitrogen, Nitrate	E353.2	µg/l																																						
Nitrogen, Nitrite	E354.1	µg/l																																						
Sodium	6010C	µg/l																																						
Sulfate	E375.4	µg/l																																						
Sulfide	E376.1	µg/l																																						
Surfactants	E425.1	µg/l																																						
Total Organic Carbon	E415.1	µg/l																																						

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.
8. Most recent samples are highlighted.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 05/19/23 07:53
Analyst: SRO

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	3.94		ug/l	2.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	ND		ug/l	0.500	--	1	A

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01 D
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 05/15/23 15:22
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	4.0	--	2
1,1-Dichloroethane	27		ug/l	2.0	--	2
Chloroform	ND		ug/l	2.0	--	2
Carbon tetrachloride	ND		ug/l	2.0	--	2
1,2-Dichloropropane	ND		ug/l	2.0	--	2
Dibromochloromethane	ND		ug/l	2.0	--	2
1,1,2-Trichloroethane	ND		ug/l	2.0	--	2
Tetrachloroethene	300		ug/l	2.0	--	2
Chlorobenzene	ND		ug/l	2.0	--	2
Trichlorofluoromethane	ND		ug/l	4.0	--	2
1,2-Dichloroethane	ND		ug/l	2.0	--	2
1,1,1-Trichloroethane	4.1		ug/l	2.0	--	2
Bromodichloromethane	ND		ug/l	2.0	--	2
trans-1,3-Dichloropropene	ND		ug/l	0.80	--	2
cis-1,3-Dichloropropene	ND		ug/l	0.80	--	2
1,3-Dichloropropene, Total	ND		ug/l	0.80	--	2
1,1-Dichloropropene	ND		ug/l	4.0	--	2
Bromoform	ND		ug/l	4.0	--	2
1,1,2,2-Tetrachloroethane	ND		ug/l	2.0	--	2
Benzene	ND		ug/l	1.0	--	2
Toluene	ND		ug/l	2.0	--	2
Ethylbenzene	ND		ug/l	2.0	--	2
Chloromethane	ND		ug/l	4.0	--	2
Bromomethane	ND		ug/l	4.0	--	2
Vinyl chloride	ND		ug/l	2.0	--	2
Chloroethane	ND		ug/l	4.0	--	2
1,1-Dichloroethene	50		ug/l	2.0	--	2
trans-1,2-Dichloroethene	ND		ug/l	2.0	--	2

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01 D
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	170		ug/l	2.0	--	2
1,2-Dichlorobenzene	ND		ug/l	2.0	--	2
1,3-Dichlorobenzene	ND		ug/l	2.0	--	2
1,4-Dichlorobenzene	ND		ug/l	2.0	--	2
Methyl tert butyl ether	10		ug/l	4.0	--	2
p/m-Xylene	ND		ug/l	4.0	--	2
o-Xylene	ND		ug/l	2.0	--	2
Xylenes, Total	ND		ug/l	2.0	--	2
cis-1,2-Dichloroethene	100		ug/l	2.0	--	2
1,2-Dichloroethene, Total	100		ug/l	2.0	--	2
Dibromomethane	ND		ug/l	4.0	--	2
1,2,3-Trichloropropane	ND		ug/l	4.0	--	2
Styrene	ND		ug/l	2.0	--	2
Dichlorodifluoromethane	ND		ug/l	4.0	--	2
Acetone	ND		ug/l	10	--	2
Carbon disulfide	ND		ug/l	4.0	--	2
Methyl ethyl ketone	ND		ug/l	10	--	2
Methyl isobutyl ketone	ND		ug/l	10	--	2
2-Hexanone	ND		ug/l	10	--	2
Bromochloromethane	ND		ug/l	4.0	--	2
Tetrahydrofuran	ND		ug/l	4.0	--	2
2,2-Dichloropropane	ND		ug/l	4.0	--	2
1,2-Dibromoethane	ND		ug/l	4.0	--	2
1,3-Dichloropropane	ND		ug/l	4.0	--	2
1,1,1,2-Tetrachloroethane	ND		ug/l	2.0	--	2
Bromobenzene	ND		ug/l	4.0	--	2
n-Butylbenzene	ND		ug/l	4.0	--	2
sec-Butylbenzene	ND		ug/l	4.0	--	2
tert-Butylbenzene	ND		ug/l	4.0	--	2
o-Chlorotoluene	ND		ug/l	4.0	--	2
p-Chlorotoluene	ND		ug/l	4.0	--	2
1,2-Dibromo-3-chloropropane	ND		ug/l	4.0	--	2
Hexachlorobutadiene	ND		ug/l	1.2	--	2
Isopropylbenzene	ND		ug/l	4.0	--	2
p-Isopropyltoluene	ND		ug/l	4.0	--	2
Naphthalene	ND		ug/l	4.0	--	2
n-Propylbenzene	ND		ug/l	4.0	--	2

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01 D
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	4.0	--	2
1,2,4-Trichlorobenzene	ND		ug/l	4.0	--	2
1,3,5-Trimethylbenzene	ND		ug/l	4.0	--	2
1,2,4-Trimethylbenzene	ND		ug/l	4.0	--	2
Diethyl ether	ND		ug/l	4.0	--	2
Diisopropyl Ether	ND		ug/l	4.0	--	2
Ethyl-Tert-Butyl-Ether	ND		ug/l	4.0	--	2
Tertiary-Amyl Methyl Ether	ND		ug/l	4.0	--	2
1,4-Dioxane	ND		ug/l	500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	120		70-130

Project Name: TUFTS ST.
Lab Number: L2326258
Project Number: 045163
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA
Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Manganese, Total	11.2		mg/l	0.0100	--	1	05/24/23 10:15	05/25/23 07:46	EPA 3005A	97,6010D	JMF

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	249.		mg CaCO3/L	2.00	NA	1	-	05/23/23 14:09	121,2320B	MKT
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/12/23 10:30	121,4500CL-D	KAF
Chloride	560		mg/l	10	--	10	-	05/23/23 22:17	1,9251	TLH
Nitrogen, Nitrate	ND		mg/l	0.100	--	1	-	05/12/23 04:54	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	05/12/23 04:54	121,4500NO3-F	KAF
Total Nitrogen	0.42		mg/l	0.30	--	1	-	05/25/23 11:05	107,-	MRM
Nitrogen, Total Kjeldahl	0.423		mg/l	0.300	--	1	05/20/23 08:15	05/24/23 13:10	121,4500NH3-H	KEP
Sulfate	44.		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD
Total Organic Carbon	2.6		mg/l	0.50	--	1	-	05/18/23 11:19	1,9060A	DEW
Surfactants, MBAS	0.070		mg/l	0.050	--	1	05/12/23 03:45	05/12/23 08:34	121,5540C	KAF
Iron, Ferrous	ND		mg/l	0.50	--	1	-	05/12/23 12:08	121,3500FE-B	OCF

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2023

FOR: Attn: Jennifer Byrnes
Alpha Analytical Lab
8 Walkup Drive
Westborough, MA 01581

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		05/11/23	13:10
Location Code:	ALPHA	Received by:	SR1	05/12/23	11:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCO04446
Phoenix ID: CO04446

Project ID: L2326258
Client ID: D45163-MW112A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Sulfide	< 0.05	0.05	mg/L	1	05/17/23	GD	SM4500S-D-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 18, 2023
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-03
Client ID: 045163-MW116
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 13:15
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 16:40
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	28		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	130		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	2.8		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	87		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	23		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-03 Date Collected: 04/18/23 13:15

Client ID: 045163-MW116 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	53		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	150		ug/l	1.0	--	1
1,2-Dichloroethene, Total	150		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-03 Date Collected: 04/18/23 13:15

Client ID: 045163-MW116 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	105		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-04
Client ID: 045163-MW900
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 12:00
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 17:06
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	27		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	130		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	2.8		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	86		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	23		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-04 Date Collected: 04/18/23 12:00

Client ID: 045163-MW900 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	54		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	150		ug/l	1.0	--	1
1,2-Dichloroethene, Total	150		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-04 Date Collected: 04/18/23 12:00

Client ID: 045163-MW900 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-01
Client ID: 045163-MW118D
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 13:00
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 19:59
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	28		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-01 Date Collected: 04/17/23 13:00

Client ID: 045163-MW118D Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	3.4		ug/l	1.0	--	1
1,2-Dichloroethene, Total	3.4		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-01
Client ID: 045163-MW118D
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 13:00
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	122		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-02
Client ID: 045163-MW118S
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 12:05
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 20:22
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-02 Date Collected: 04/17/23 12:05

Client ID: 045163-MW118S Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-02
Client ID: 045163-MW118S
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 12:05
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	125		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-06
Client ID: 045163-MW118T
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 15:15
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 21:53
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	15		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	1.0		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-06 Date Collected: 04/17/23 15:15

Client ID: 045163-MW118T Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-06 Date Collected: 04/17/23 15:15

Client ID: 045163-MW118T Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	128		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320709
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-01
Client ID: 045163-MW119S
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 16:24
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/25/23 10:49
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-01 Date Collected: 04/17/23 16:24

Client ID: 045163-MW119S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-01 Date Collected: 04/17/23 16:24

Client ID: 045163-MW119S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	124		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320709
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-02
Client ID: 045163-MW119T
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 16:45
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/25/23 11:12
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	2.6		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	36		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	2.6		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-02 Date Collected: 04/17/23 16:45

Client ID: 045163-MW119T Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	10		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-02 Date Collected: 04/17/23 16:45

Client ID: 045163-MW119T Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	123		70-130

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-02 Date Collected: 04/18/23 10:45
Client ID: 045163-MW120D Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 16:15
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	1.7		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	5.2		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-02 Date Collected: 04/18/23 10:45

Client ID: 045163-MW120D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	2.0		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-02 Date Collected: 04/18/23 10:45

Client ID: 045163-MW120D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	122		70-130

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-01 Date Collected: 04/18/23 11:05
Client ID: 045163-MW120S Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 15:50
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-01 Date Collected: 04/18/23 11:05

Client ID: 045163-MW120S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-01 Date Collected: 04/18/23 11:05

Client ID: 045163-MW120S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	122		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-09
Client ID: 045163-MW121D
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 14:40
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 14:40
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	24		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	35		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	8.6		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	5.5		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-09 Date Collected: 04/18/23 14:40

Client ID: 045163-MW121D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	20		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	17		ug/l	1.0	--	1
1,2-Dichloroethene, Total	17		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-09 Date Collected: 04/18/23 14:40

Client ID: 045163-MW121D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	114		70-130

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-10 Date Collected: 04/18/23 15:00
Client ID: 045163-MW121S Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 15:04
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-10 Date Collected: 04/18/23 15:00

Client ID: 045163-MW121S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-10 Date Collected: 04/18/23 15:00

Client ID: 045163-MW121S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	116		70-130

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-07 D
Client ID: 045163-MW122
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 15:50
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 22:16
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	20	--	10
1,1-Dichloroethane	18		ug/l	10	--	10
Chloroform	ND		ug/l	10	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	10	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	10	--	10
Tetrachloroethene	1700		ug/l	10	--	10
Chlorobenzene	ND		ug/l	10	--	10
Trichlorofluoromethane	ND		ug/l	20	--	10
1,2-Dichloroethane	ND		ug/l	10	--	10
1,1,1-Trichloroethane	ND		ug/l	10	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	4.0	--	10
cis-1,3-Dichloropropene	ND		ug/l	4.0	--	10
1,3-Dichloropropene, Total	ND		ug/l	4.0	--	10
1,1-Dichloropropene	ND		ug/l	20	--	10
Bromoform	ND		ug/l	20	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	ND		ug/l	5.0	--	10
Toluene	ND		ug/l	10	--	10
Ethylbenzene	ND		ug/l	10	--	10
Chloromethane	ND		ug/l	20	--	10
Bromomethane	ND		ug/l	20	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	10	--	10

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-07 D Date Collected: 04/17/23 15:50
Client ID: 045163-MW122 Date Received: 04/17/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	170		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	10	--	10
1,3-Dichlorobenzene	ND		ug/l	10	--	10
1,4-Dichlorobenzene	ND		ug/l	10	--	10
Methyl tert butyl ether	ND		ug/l	20	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-Xylene	ND		ug/l	10	--	10
Xylenes, Total	ND		ug/l	10	--	10
cis-1,2-Dichloroethene	110		ug/l	10	--	10
1,2-Dichloroethene, Total	110		ug/l	10	--	10
Dibromomethane	ND		ug/l	20	--	10
1,2,3-Trichloropropane	ND		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Dichlorodifluoromethane	ND		ug/l	20	--	10
Acetone	ND		ug/l	50	--	10
Carbon disulfide	ND		ug/l	20	--	10
Methyl ethyl ketone	ND		ug/l	50	--	10
Methyl isobutyl ketone	ND		ug/l	50	--	10
2-Hexanone	ND		ug/l	50	--	10
Bromochloromethane	ND		ug/l	20	--	10
Tetrahydrofuran	ND		ug/l	20	--	10
2,2-Dichloropropane	ND		ug/l	20	--	10
1,2-Dibromoethane	ND		ug/l	20	--	10
1,3-Dichloropropane	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Bromobenzene	ND		ug/l	20	--	10
n-Butylbenzene	ND		ug/l	20	--	10
sec-Butylbenzene	ND		ug/l	20	--	10
tert-Butylbenzene	ND		ug/l	20	--	10
o-Chlorotoluene	ND		ug/l	20	--	10
p-Chlorotoluene	ND		ug/l	20	--	10
1,2-Dibromo-3-chloropropane	ND		ug/l	20	--	10
Hexachlorobutadiene	ND		ug/l	6.0	--	10
Isopropylbenzene	ND		ug/l	20	--	10
p-Isopropyltoluene	ND		ug/l	20	--	10
Naphthalene	ND		ug/l	20	--	10
n-Propylbenzene	ND		ug/l	20	--	10

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-07 D Date Collected: 04/17/23 15:50

Client ID: 045163-MW122 Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	20	--	10
1,2,4-Trichlorobenzene	ND		ug/l	20	--	10
1,3,5-Trimethylbenzene	ND		ug/l	20	--	10
1,2,4-Trimethylbenzene	ND		ug/l	20	--	10
Diethyl ether	ND		ug/l	20	--	10
Diisopropyl Ether	ND		ug/l	20	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/l	20	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	10
1,4-Dioxane	ND		ug/l	2500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	112		70-130

Consulting Engineers and Scientists

March 13, 2023
Project 04516-3

Marion Morton Realty Trust
Xinjian Qiao, Trustee
46 Gibson Street
Medford, MA 02155-4831

Dear Ms. Qiao:

Re: Annual EPMM Inspection
4 Morton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, I am writing to request access to your property at 4 Morton Street to perform the annual inspection of the exposure pathway mitigation measure (EPMM) installed in the basement. We previously sent a letter on August 16, 2022.

The EPMM consists of a sub-slab vapor barrier, ventilation piping with extraction points beneath the basement slab, and sealing the basement floor and the below grade portion of the walls. The EPMM was installed to inhibit vapors from intruding through the building foundation. We typically inspect the EPMM annually to confirm that the components are intact and functioning as intended.

Please contact Christopher Coner at 781-721-4135 or cconer@geiconsultants.com, to schedule the annual EPMM inspection of the basement, if you have any questions, or would like additional information.

Our records indicate that your preferred method for scheduling EPMM inspections was by email at qiaox2001@yahoo.com and your home and work numbers were 617-905-5158 and 781-839-1765, respectively. It appears that the home and work phone numbers we have for you are no longer working numbers and we received no response to our email. Please inform me if you have an alternative phone number or email for scheduling future EPMM inspections.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/CC/ISG:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Consulting Engineers and Scientists

March 13, 2023
Project 04516-3

Clementina Cabral
17 Knowlton Street
Somerville, MA 02145

Dear Ms. Cabral:

Re: Annual EPMM Inspection
17 Knowlton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, I am writing to request access to your property at 17 Knowlton Street to perform the annual inspection of the exposure pathway mitigation measure (EPMM) installed in the basement. We previously sent a letter on August 16, 2022.

The EPMM consists of a sub-slab vapor barrier, ventilation piping with extraction points beneath the basement slab, and sealing the basement floor and the below grade portion of the walls. The EPMM was installed to inhibit vapors from intruding through the building foundation. We typically inspect the EPMM annually to confirm that the components are intact and functioning as intended.

Please contact Christopher Coner at 781-721-4135 or cconer@geiconsultants.com, to schedule the annual EPMM inspection of the basement, if you have any questions, or would like additional information.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/CC/ISG:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Consulting Engineers and Scientists

March 13, 2023
Project 04516-3

Gang Lian and Xiao-Ning Wang
5 Butterwick Lane
Old Lyme, CT 06371

Dear Mr. Lian and Mrs. Wang:

Re: Annual EPMM Inspection
19-19A Morton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, I am writing to request access to your property at 19-19A Morton Street to perform the annual inspection of the exposure pathway mitigation measure (EPMM) installed in the basement. We previously sent a letter on August 16, 2022.

The EPMM consists of a sub-slab vapor barrier, ventilation piping with extraction points beneath the basement slab, and sealing the basement floor and the below grade portion of the walls. The EPMM was installed to inhibit vapors from intruding through the building foundation. We typically inspect the EPMM annually to confirm that the components are intact and functioning as intended.

Please contact Christopher Coner at 781-721-4135 or cconer@geiconsultants.com, to schedule the annual EPMM inspection of the basement, if you have any questions, or would like additional information.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP
Senior Vice President

Christopher Coner, CHMM
Project Manager

MEF/CC/ISG:jam
c: Catherine Malagrida, UniFirst Corporation
MassDEP via Status Report

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Appendix C

Kleinfelder Soil, GLX Soil Precharacterization Data, and Contained-In Determinations

Tables

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Green Line Extension
Washington Street Area
Soil - Volatile Organic Compounds

			Location	B-S004-1	B-S004-2	B-S004-3	B-S004-4	B-S004-5	B-S004-6	B-S-BB-1	S-BB-2	S-BB-3	S-BB-4	MW-5	MW-5R	KE-117	WASHINGTON ST_ZONE 1	WASHINGTON ST_ZONE 2	WASHINGTON ST_ZONE 3
			Start Depth	21	25	0	6	0	4	0	0	10	4	2	18	0.5	0	14	19
			End Depth	23	27	2	8	2	6	2	2	12	6	4	20	4	14	19	26
			Sample Date	5/24/2010	5/24/2010	5/21/2010	5/20/2010	5/19/2010	5/18/2010	5/13/2010	5/13/2010	5/14/2010	5/14/2010	5/14/2010	9/27/2012	8/23/2012	9/13/2012	9/13/2012	9/13/2012
Analyte	RCS-1	RCS-2	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	<0.011	<0.015	<0.011	<0.10	<0.059	<0.065	<0.068	<0.068	<0.061	<0.068	<0.066	<0.051	<0.074	<0.053	<0.046	<0.051
1,1,1-Trichloroethane	30	600	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1,2,2-Tetrachloroethane	0.005	0.02	mg/kg	<0.011	<0.015	<0.011	<0.10	<0.059	<0.065	<0.068	<0.068	<0.061	<0.068	<0.066	<0.051	<0.074	<0.053	<0.046	<0.051
1,1,2-Trichloroethane	0.1	2	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1-Dichloroethane	0.4	9	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1-Dichloroethylene	3	40	mg/kg	< 0.057	**0.09**	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1-Dichloropropene	0.01	0.1	mg/kg	<0.011	<0.015	<0.011	<0.10	<0.059	<0.065	<0.068	<0.068	<0.061	<0.068	<0.066	<0.051	<0.074	<0.053	<0.046	<0.051
1,2,3-Trichlorobenzene				< 0.28	< 0.36	< 0.27	< 5.1	< 0.30	< 0.32	< 0.34	< 0.34	< 0.30	< 0.34	< 0.33	<0.2	< 0.3	< 0.21	< 0.18	< 0.2
1,2,3-Trichloropropane	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
1,2,4-Trichlorobenzene	2	6	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.1	< 0.074	< 0.11	< 0.092	< 0.1
1,2,4-Trimethylbenzene	1000	10000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	**0.12**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2-Dibromo-3-chloropropane	10	100	mg/kg	< 0.57	< 0.73	< 0.53	<10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.2	< 0.37	< 0.21	< 0.18	< 0.2
1,2-Dibromoethane (Ethylene Dibromide)	--	--		< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
1,2-Dichlorobenzene	9	100	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2-Dichloroethane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2-Dichloropropane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,3,5-Trimethylbenzene	10	100	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,3-Dichlorobenzene	1	200	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,3-Dichloropropane	500	5000	mg/kg	< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.025	< 0.037	< 0.026	< 0.023	< 0.025
1,4-Dichlorobenzene	0.7	1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,4-Dioxane	0.2	6	mg/kg	<2.8	<3.6	<2.7	<51	<3.0	<3.2	<3.4	<3.4	<3.0	<3.4	<3.3	<0.25	<3.7	<2.6	<2.3	<2.5
2,2-Dichloropropane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
2-Butanone	4	50	mg/kg	< 1.1	< 1.5	< 1.1	<20	< 1.2	< 1.3	< 1.4	< 1.4	< 1.2	< 1.4	< 1.3	<1	< 1.5	< 1.1	< 0.92	< 1
2-Chlorotoluene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
2-Hexanone	100	1000	mg/kg	< 0.57	< 0.73	< 0.53	< 10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.051	< 0.74	< 0.53	< 0.46	< 0.51
4-Chlorotoluene	100	1000	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
4-Isopropyltoluene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
4-Methyl-2-pentanone	0.4	50	mg/kg	<0.57	<0.73	<0.53	<10	<0.59	<0.65	<0.68	<0.68	<0.61	<0.68	<0.66	<0.051	<0.74	<0.53	<0.46	<0.51
Acetone	6	50	mg/kg	< 2.8	< 3.6	< 2.7	<51	< 3.0	< 3.2	< 3.4	< 3.4	< 3.0	< 3.4	< 3.3	<2.5	< 3.7	< 2.6	< 2.3	< 2.5
Benzene	2	200	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	< 0.059	< 0.065	< 0.068	< 0.066	< 0.070	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromobenzene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromochloromethane	--	--		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromodichloromethane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromoform	0.1	1	mg/kg	<0.11	<0.15	<0.11	<2.0	<0.12	<0.13	<0.14	<0.14	<0.12	<0.14	<0.13	<0.1	<0.15	<0.11	<0.092	<0.1
Bromomethane	0.5	0.5	mg/kg	<0.57	<0.73	<0.53	<10	<0.59	<0.65	<0.68	<0.68	<0.61	<0.68	<0.66	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Carbon disulfide	100	1000	mg/kg	< 0.57	< 0.73	< 0.53	< 10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.051	< 0.74	< 0.53	< 0.46	< 0.51
Carbon tetrachloride	5	5	mg/kg	< 0.23	< 0.29	< 0.21	< 4.1	< 0.24	< 0.26	< 0.27	< 0.27	< 0.24	< 0.27	< 0.26	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Chlorobenzene	1	3	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Chloroethane	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Chloroform	0.2	0.2	mg/kg	< 0.11	<0.15	< 0.11	<2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	<0.15	< 0.11	< 0.092	< 0.1
Chloromethane	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Chlorotoluene	--	--		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066		NT	NT	NT	NT
cis-1,2-Dichloroethylene	0.1	0.1	mg/kg	< 0.057	0.74	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
cis-1,3-Dichloropropene	0.01	0.1	mg/kg	<0.028	<0.036	<0.027	<0.51	<0.030	<0.032	<0.034	<0.034	<0.030	<0.034	<0.033	<0.051	<0.074	<0.053	<0.046	<0.051
Dibromochloromethane	0.005	0.03	mg/kg	<0.011	<0.015	<0.011	<2.0	<0.012	<0.013	<0.014	<0.014	<0.012	<0.014	<0.013	<0.1	<0.15	<0.11	<0.092	<0.1
Dibromomethane	500	5000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Dichlorodifluoromethane	1000	10000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Diethyl ether	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Ethyl tert-butyl ether	--	--		< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
Ethylbenzene	40	1000	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	< 0.059	< 0.065	< 0.068	< 0.066	< 0.070	< 0.068	**0.09**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Hexachlorobutadiene	30	100	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Isopropyl ether	100	1000	mg/kg	< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
Isopropylbenzene	1000	10000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
m/p-Xylene	100	100	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	**0.21**	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Methyl tert-butyl ether	0.1	100	mg/kg	< 0.060	< 0.073	< 0.053	<0.098	< 0.059	< 0.065	< 0.068	< 0.066	< 0.070	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Methylene chloride	0.1	20	mg/kg	<0.28	<0.36	<0.27	<5.1	<0.30	<0.32	<0.34	<0.34	<0.30	<0.34	<0.33	<0.25	<0.37	<0.26	<0.23	<0.25
Naphthalene	4	20	mg/kg	< 0.60	< 0.15	< 0.11	< 0.98	**0.35**	< 0.13	**0.19**	< 0.66	< 0.70	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
n-Butylbenzene	--	--		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
o-Xylene	100	100	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	< 0.059	< 0.065	**0.07**	< 0.066	< 0.070	< 0.068	**0.11**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Propylbenzene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
sec-Butylbenzene	--	--		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.097	< 0.074	< 0.053	< 0.046	< 0.051
Styrene	3	4	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
tert-Amyl methyl ether	--	--		< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
tert-Butylbenzene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Tetrachloroethylene	1	10	mg/kg	**0.49**	24.01	< 0.053	<0.10	**0.21**	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Tetrahydrofuran	500	5000	mg/kg	< 0.57	< 0.73	< 0.53	< 10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.2	< 0.3	< 0.21	< 0.18	< 0.2
Toluene	30	1000	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	**0.17**	**0.09**	**0.09**	< 0.066	< 0.070	< 0.068	**0.13**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
trans-1,2-Dichloroethylene	1	1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
trans-1,3-Dichloropropene	0.01	0.1	mg/kg	<0.028	<0.036	<0.027	<0.51	<0.030	<0.032	<0.034	<0.034	<0.030	<0.034	<0.033	<0.25	<0.037	<0.026	<0.023	<0.025
Trichloroethylene	0.3	0.3	mg/kg	< 0.057	2.70	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Trichlorofluoromethane	1000	10000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Vinyl chloride	0.7	0.7	mg/kg	< 0.11	< 0.15	< 0.11	<2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1

Notes:

Bold - Analyte detected above laboratory detection limits
Bold and Shaded (Blue) - Analyte detected above RCS-1
Underlined - Analyte detected above RCS-2
Bold and Gray: RL > RCS-1
-- No standard promulgated
NT- Not tested

Kleinfelder

Green Line Extension
Washington Street Area
Soil - Volatile Organic Compounds

			Location	WASHINGTON ST_ZONE 4	NDB-26	NDB-27	KE-202-WS-D	KE-202-WS-D	KE-202-WS-S	KE-204-WS	KE-204-WS	KE-205-WS	KE-205-WS	KE-206-WS	KE-206-WS	KE-207-WS	KE-208-WS	KE-209-WS	KE-210-WS	KE-210-WS
			Start Depth	26	0.5	6.5	19	24	14	0	18	0	14	10	17	14	8	15	6	15
			End Depth	32	12	27	21	26	16	1	20	2	16	10.5	19	16	8.5	17	6.5	17
			Sample Date	9/13/2012	1/7/2014	1/6/2014	3/25/2014	3/25/2014	3/25/2014	3/25/2014	4/2/2014	4/1/2014	4/1/2014	3/25/2014	4/3/2014	3/31/2014	3/25/2014	3/26/2014	3/26/2014	4/7/2014
Analyte	RCS-1	RCS-2	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,1,1-Trichloroethane	30	600	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	**0.01**	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	**0.04**
1,1,2,2-Tetrachloroethane	0.005	0.02	mg/kg	<0.0023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
1,1,2-Trichloroethane	0.1	2	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,1-Dichloroethane	0.4	9	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	**0.01**	**0.04**
1,1-Dichloroethylene	3	40	mg/kg	< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	**0.03**
1,1-Dichloropropene	0.01	0.1	mg/kg	<0.05	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2,3-Trichlorobenzene				< 0.18	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
1,2,3-Trichloropropane	100	1000	mg/kg	< 0.09	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2,4-Trichlorobenzene	2	6	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
1,2,4-Trimethylbenzene	1000	10000	mg/kg	< 0.045	**0.03**	< 0.0082	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2-Dibromo-3-chloropropane	10	100	mg/kg	< 0.18	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0017	< 0.012	< 0.014	< 0.011	< 0.0017	< 0.015	< 0.012	< 0.0017	< 0.0078	< 0.014	< 0.016
1,2-Dibromoethane (Ethylene Dibromide)	--	--		< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
1,2-Dichlorobenzene	9	100	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2-Dichloroethane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2-Dichloropropane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,3,5-Trimethylbenzene	10	100	mg/kg	< 0.045	**0.01**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,3-Dichlorobenzene	1	200	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,3-Dichloropropane	500	5000	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
1,4-Dichlorobenzene	0.7	1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,4-Dioxane	0.2	6	mg/kg	<2.3	< 0.18	<0.2	< 0.077	< 0.071	< 0.067	< 0.083	< 0.12	< 0.14	< 0.11	< 0.084	< 0.15	< 0.12	< 0.086	< 0.078	< 0.14	< 0.16
2,2-Dichloropropane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0077	< 0.0014	< 0.0067	< 0.0017	< 0.012	< 0.014	< 0.011	< 0.0017	< 0.015	< 0.012	< 0.0017	< 0.0078	< 0.014	< 0.016
2-Butanone	4	50	mg/kg	< 0.9	< 0.072	< 0.082	< 0.031	< 0.028	< 0.027	< 0.033	< 0.049	< 0.055	< 0.045	< 0.034	< 0.059	< 0.049	< 0.034	< 0.031	< 0.055	< 0.062
2-Chlorotoluene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
2-Hexanone	100	1000	mg/kg	< 0.45	< 0.072	< 0.082	< 0.015	< 0.014	< 0.013	< 0.017	< 0.024	< 0.027	< 0.022	< 0.017	< 0.029	< 0.025	< 0.017	< 0.016	< 0.028	< 0.031
4-Chlorotoluene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
4-Isopropyltoluene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
4-Methyl-2-pentanone	0.4	50	mg/kg	<0.05	< 0.036	< 0.041	< 0.015	< 0.014	< 0.013	< 0.017	< 0.024	< 0.027	< 0.022	< 0.017	< 0.029	< 0.025	< 0.017	< 0.016	< 0.028	< 0.031
Acetone	6	50	mg/kg	< 2.3	< 0.18	< 0.2	< 0.077	< 0.071	< 0.067	< 0.083	< 0.12	< 0.14	< 0.11	< 0.084	< 0.15	< 0.12	< 0.086	< 0.078	< 0.14	< 0.16
Benzene	2	200	mg/kg	< 0.045	**0.01**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromobenzene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromochloromethane	--	--		< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromodichloromethane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromoform	0.1	1	mg/kg	< 0.045	< 0.018	< 0.02	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromomethane	0.5	0.5	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Carbon disulfide	100	1000	mg/kg	< 0.45	< 0.011	< 0.012	< 0.0046	< 0.0043	< 0.004	< 0.005	< 0.0073	< 0.0082	< 0.0067	< 0.0051	< 0.0088	< 0.0074	< 0.0051	< 0.0047	< 0.0083	< 0.0093
Carbon tetrachloride	5	5	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Chlorobenzene	1	3	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Chloroethane	100	1000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Chloroform	0.2	0.2	mg/kg	< 0.09	< 0.0072	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	< 0.0062
Chloromethane	100	1000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Chlorotoluene	--	--		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,2-Dichloroethylene	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	**0.01**	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	**0.03**	< 0.0016	**0.04**	< 0.0031
cis-1,3-Dichloropropene	0.01	0.1	mg/kg	<0.023	< 0.0072	< 0.0082	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Dibromochloromethane	0.005	0.03	mg/kg	<0.023	<0.0018	<0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Dibromomethane	500	5000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Dichlorodifluoromethane	1000	10000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Diethyl ether	100	1000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Ethyl tert-butyl ether	--	--		< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Ethylbenzene	40	1000	mg/kg	< 0.045	**0.02**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Hexachlorobutadiene	30	100	mg/kg	< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0014	< 0.0027	< 0.0017	< 0.0049	< 0.055	< 0.0045	< 0.0017	< 0.0059	< 0.0049	< 0.0017	< 0.0031	< 0.0055	< 0.0062
Isopropyl ether	100	1000	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Isopropylbenzene	1000	10000	mg/kg	< 0.045	**0.01**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
m/p-Xylene	100	100	mg/kg	< 0.09	**0.01**	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	< 0.0062
Methyl tert-butyl ether	0.1	100	mg/kg	< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	< 0.0062
Methylene chloride	0.1	20	mg/kg	<0.23	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	**0.02**	< 0.016
Naphthalene	4	20	mg/kg	< 0.09	**0.03**	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
n-Butylbenzene	--	--		< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0014	< 0.0027	< 0.0017	< 0.0049	< 0.0055	< 0.0045	< 0.0017	< 0.0059	< 0.0049	< 0.0017	< 0.0031	< 0.0055	< 0.0062
o-Xylene	100	100	mg/kg	< 0.045	**0.02**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Propylbenzene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
sec-Butylbenzene	--	--		< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Styrene	3	4	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
tert-Amyl methyl ether	--	--		< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
tert-Butylbenzene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0031	< 0.0014	< 0.0027	< 0.0017	< 0.0049	< 0.0055	< 0.0045	< 0.0017	< 0.0059	< 0.0049	< 0.0017	< 0.0031	< 0.0055	< 0.0062
Tetrachloroethylene	1	10	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	**0.04**	< 0.0013	< 0.0017	**0.01**	< 0.0027	< 0.0022	2.5 [1]	**0.04**	< 0.0025	2.5 [1]	< 0.0016	**0.05**	0.20
Tetrahydrofuran	500	5000	mg/kg	< 0.18	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Toluene	30	1000	mg/kg	< 0.045	**0.00**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
trans-1,2-Dichloroethylene	1	1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	**0.00**	< 0.0031
trans-1,3-Dichloropropene	0.01	0.1	mg/kg	<0.023	<0.0018	<0.002	< 0.0031	< 0.00071	< 0.0027	< 0.00083	< 0.0049	< 0.0055	< 0.0045	< 0.00084	< 0.0059	< 0.0049	< 0.00086	< 0.0031	< 0.0055	< 0.0062
Trichloroethylene	0.3	0.3	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	**0.01**	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	**0.03**	< 0.0029	< 0.0025	**0.02**	< 0.0016	**0.05**	**0.19**
Trichlorofluoromethane	1000	10000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Vinyl chloride	0.7	0.7	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016

Notes:

Bold - Analyte detected above laboratory detection limits
Bold and Shaded (Blue) - Analyte detected above RCS-1
Underlined - Analyte detected above RCS-2
Bold and Gray: RL > RCS-1
-- No standard promulgated
NT- Not tested

Kleinfelder

Green Line Extension
Washington Street Area
Soil - Volatile Organic Compounds

			Location	KE-211-WS	KE-211-WS
			Start Depth	0	24
			End Depth	6	25
			Sample Date	3/26/2014	3/29/2014
Analyte	RCS-1	RCS-2	Unit	Result	Result
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
1,1,1-Trichloroethane	30	600	mg/kg	**0.00**	< 0.0015
1,1,2,2-Tetrachloroethane	0.005	0.02	mg/kg	< 0.0011	< 0.00076
1,1,2-Trichloroethane	0.1	2	mg/kg	< 0.0023	< 0.0015
1,1-Dichloroethane	0.4	9	mg/kg	< 0.0023	< 0.0015
1,1-Dichloroethylene	3	40	mg/kg	< 0.0046	< 0.0031
1,1-Dichloropropene	0.01	0.1	mg/kg	< 0.0023	< 0.0015
1,2,3-Trichlorobenzene				< 0.011	< 0.0076
1,2,3-Trichloropropane	100	1000	mg/kg	< 0.0023	< 0.0015
1,2,4-Trichlorobenzene	2	6	mg/kg	< 0.011	< 0.0076
1,2,4-Trimethylbenzene	1000	10000	mg/kg	< 0.0023	< 0.0015
1,2-Dibromo-3-chloropropane	10	100	mg/kg	< 0.011	< 0.0076
1,2-Dibromoethane (Ethylene Dibromide)	--	--		< 0.0011	< 0.00076
1,2-Dichlorobenzene	9	100	mg/kg	< 0.0023	< 0.0015
1,2-Dichloroethane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
1,2-Dichloropropane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
1,3,5-Trimethylbenzene	10	100	mg/kg	< 0.0023	< 0.0015
1,3-Dichlorobenzene	1	200	mg/kg	< 0.0023	< 0.0015
1,3-Dichloropropane	500	5000	mg/kg	< 0.0011	< 0.00076
1,4-Dichlorobenzene	0.7	1	mg/kg	< 0.0023	< 0.0015
1,4-Dioxane	0.2	6	mg/kg	< 0.11	< 0.076
2,2-Dichloropropane	0.1	0.1	mg/kg	< 0.011	< 0.0076
2-Butanone	4	50	mg/kg	< 0.046	< 0.031
2-Chlorotoluene	100	1000	mg/kg	< 0.0023	< 0.0015
2-Hexanone	100	1000	mg/kg	< 0.023	< 0.015
4-Chlorotoluene	100	1000	mg/kg	< 0.0023	< 0.0015
4-Isopropyltoluene	100	1000	mg/kg	< 0.0023	< 0.0015
4-Methyl-2-pentanone	0.4	50	mg/kg	< 0.023	< 0.015
Acetone	6	50	mg/kg	< 0.11	< 0.076
Benzene	2	200	mg/kg	< 0.0023	< 0.0015
Bromobenzene	100	1000	mg/kg	< 0.0023	< 0.0015
Bromochloromethane	--	--		< 0.0023	< 0.0015
Bromodichloromethane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
Bromoform	0.1	1	mg/kg	< 0.0023	< 0.0015
Bromomethane	0.5	0.5	mg/kg	< 0.011	< 0.0076
Carbon disulfide	100	1000	mg/kg	< 0.0069	< 0.0046
Carbon tetrachloride	5	5	mg/kg	< 0.0023	< 0.0015
Chlorobenzene	1	3	mg/kg	< 0.0023	< 0.0015
Chloroethane	100	1000	mg/kg	< 0.011	< 0.0076
Chloroform	0.2	0.2	mg/kg	< 0.0046	< 0.0031
Chloromethane	100	1000	mg/kg	< 0.011	< 0.0076
Chlorotoluene	--	--		NT	NT
cis-1,2-Dichloroethylene	0.1	0.1	mg/kg	< 0.0023	< 0.0015
cis-1,3-Dichloropropene	0.01	0.1	mg/kg	< 0.0011	< 0.00076
Dibromochloromethane	0.005	0.03	mg/kg	< 0.0011	< 0.00076
Dibromomethane	500	5000	mg/kg	< 0.0023	< 0.0015
Dichlorodifluoromethane	1000	10000	mg/kg	< 0.011	< 0.0076
Diethyl ether	100	1000	mg/kg	< 0.011	< 0.0076
Ethyl tert-butyl ether	--	--		< 0.0011	< 0.00076
Ethylbenzene	40	1000	mg/kg	< 0.0023	< 0.0015
Hexachlorobutadiene	30	100	mg/kg	< 0.0046	< 0.0031
Isopropyl ether	100	1000	mg/kg	< 0.0011	< 0.00076
Isopropylbenzene	1000	10000	mg/kg	< 0.0023	< 0.0015
m/p-Xylene	100	100	mg/kg	< 0.0046	< 0.0031
Methyl tert-butyl ether	0.1	100	mg/kg	< 0.0046	< 0.0031
Methylene chloride	0.1	20	mg/kg	< 0.011	< 0.0076
Naphthalene	4	20	mg/kg	< 0.011	< 0.0076
n-Butylbenzene	--	--		< 0.0046	< 0.0031
o-Xylene	100	100	mg/kg	< 0.0023	< 0.0015
Propylbenzene	100	1000	mg/kg	< 0.0023	< 0.0015
sec-Butylbenzene	--	--		< 0.0023	< 0.0015
Styrene	3	4	mg/kg	< 0.0023	< 0.0015
tert-Amyl methyl ether	--	--		< 0.0011	< 0.00076
tert-Butylbenzene	100	1000	mg/kg	< 0.0046	< 0.0031
Tetrachloroethylene	1	10	mg/kg	**0.07**	< 0.0015
Tetrahydrofuran	500	5000	mg/kg	< 0.011	< 0.0076
Toluene	30	1000	mg/kg	< 0.0023	< 0.0015
trans-1,2-Dichloroethylene	1	1	mg/kg	< 0.0023	< 0.0015
trans-1,3-Dichloropropene	0.01	0.1	mg/kg	< 0.0046	< 0.0031
Trichloroethylene	0.3	0.3	mg/kg	**0.00**	< 0.0015
Trichlorofluoromethane	1000	10000	mg/kg	< 0.011	< 0.0076
Vinyl chloride	0.7	0.7	mg/kg	< 0.011	< 0.0076

Notes:

Bold - Analyte detected above laboratory detection limits
Bold and Shaded (Blue) - Analyte detected above RCS-1
Underlined - Analyte detected above RCS-2
Bold and Gray: RL > RCS-1
-- No standard promulgated
NT- Not tested

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413			GLX-TPW-414
						Sample Depth^:	2 ft	2 ft	10 ft	3 ft
						Sample Date:	4/6/2020	4/6/2020	4/6/2020	4/15/2020
Analysis	Analyte	Unit	S-1/GW-1	S-1/GW-2	S-1/GW-3		Low VOC	High VOC		
VOCs										
	Methylene chloride	mg/kg	0.1	4	400	0.0066 U	0.4 U	0.003 U	0.0041 U	
	1,1-Dichloroethane	mg/kg	0.4	9	500	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Chloroform	mg/kg	0.4	0.2	500	0.002 U	0.12 U	0.00089 U	0.0012 U	
	Carbon tetrachloride	mg/kg	10	5	30	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	1,2-Dichloropropane	mg/kg	0.1	0.1	30	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Dibromochloromethane	mg/kg	0.005	0.03	20	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	1,1,2-Trichloroethane	mg/kg	0.1	2	40	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Tetrachloroethene	mg/kg	1	10	30	**0.0054**	**0.21**	**0.0033**	0.00041 U	
	Chlorobenzene	mg/kg	1	3	100	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	Trichlorofluoromethane	mg/kg	NS	NS	NS	0.0052 U	0.32 U	0.0024 U	0.0033 U	
	1,2-Dichloroethane	mg/kg	0.1	0.1	20	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	1,1,1-Trichloroethane	mg/kg	30	500	500	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	Bromodichloromethane	mg/kg	0.1	0.1	30	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	trans-1,3-Dichloropropene	mg/kg	0.01(2)	0.4(2)	20(2)	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	cis-1,3-Dichloropropene	mg/kg	0.01(2)	0.4(2)	20(2)	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	1,3-Dichloropropene, Total	mg/kg	0.01	0.4	20	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	1,1-Dichloropropene	mg/kg	NS	NS	NS	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	Bromoform	mg/kg	0.1	1	300	0.0052 U	0.32 U	0.0024 U	0.0033 U	
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	0.02	10	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	Benzene	mg/kg	2	40	40	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	Toluene	mg/kg	30	500	500	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Ethylbenzene	mg/kg	40	500	500	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Chloromethane	mg/kg	NS	NS	NS	0.0052 U	0.32 U	0.0024 U	0.0033 U	
	Bromomethane	mg/kg	0.5	0.5	30	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	Vinyl chloride	mg/kg	0.9	0.7	1	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Chloroethane	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	1,1-Dichloroethene	mg/kg	3	40	500	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	trans-1,2-Dichloroethene	mg/kg	1	1	500	0.002 U	0.12 U	0.00089 U	0.0012 U	
	Trichloroethene	mg/kg	0.3	0.3	30	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	1,2-Dichlorobenzene	mg/kg	9	100	300	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	1,3-Dichlorobenzene	mg/kg	3	100	100	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	1,4-Dichlorobenzene	mg/kg	0.7	1	80	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	Methyl tert butyl ether	mg/kg	0.1	100	100	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	p/m-Xylene	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	o-Xylene	mg/kg	NS	NS	NS	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Xylenes (Total)	mg/kg	400	100	500	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	cis-1,2-Dichloroethene	mg/kg	0.3	0.1	100	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Dibromomethane	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	1,2,3-Trichloropropane	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	Styrene	mg/kg	3	4	70	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	Dichlorodifluoromethane	mg/kg	NS	NS	NS	0.013 U	0.81 U	0.006 U	0.0082 U	
	Acetone	mg/kg	6	50	400	**0.48 E**	0.81 U	**0.066**	**0.03**	
	Carbon disulfide	mg/kg	NS	NS	NS	0.013 U	0.81 U	0.006 U	0.0082 U	
	2-Butanone	mg/kg	4	50	400	0.013 U	0.81 U	0.006 U	0.0082 U	
	4-Methyl-2-pentanone	mg/kg	0.4	50	400	0.013 U	0.81 U	0.006 U	0.0082 U	
	2-Hexanone	mg/kg	NS	NS	NS	0.013 U	0.81 U	0.006 U	0.0082 U	
	Bromochloromethane	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	Tetrahydrofuran	mg/kg	NS	NS	NS	0.0052 U	0.32 U	0.0024 U	0.0033 U	
	2,2-Dichloropropane	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	1,2-Dibromoethane	mg/kg	0.1	0.1	1	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	1,3-Dichloropropane	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	0.1	80	0.00066 U	0.04 U	0.0003 U	0.00041 U	
	Bromobenzene	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	n-Butylbenzene	mg/kg	100(1)	100(1)	100(1)	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	sec-Butylbenzene	mg/kg	100(1)	100(1)	100(1)	0.0013 U	0.081 U	0.0006 U	0.00082 U	
	tert-Butylbenzene	mg/kg	100(1)	100(1)	100(1)	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	o-Chlorotoluene	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	
	p-Chlorotoluene	mg/kg	NS	NS	NS	0.0026 U	0.16 U	0.0012 U	0.0016 U	

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413			GLX-TPW-414
						Sample Depth^:	2 ft	2 ft	10 ft	3 ft
						Sample Date:	4/6/2020	4/6/2020	4/6/2020	4/15/2020
Analysis	Analyte	Unit	S-1/GW-1	S-1/GW-2	S-1/GW-3		Low VOC	High VOC		
	1,2-Dibromo-3-chloropropane	mg/kg	NS	NS	NS		0.0039 U	0.24 U	0.0018 U	0.0024 U
	Hexachlorobutadiene	mg/kg	30	30	30		0.0052 U	0.32 U	0.0024 U	0.0033 U
	Isopropylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0013 U	0.081 U	0.0006 U	0.00082 U
	p-Isopropyltoluene	mg/kg	100(1)	100(1)	100(1)		0.0013 U	0.081 U	0.0006 U	0.00082 U
	Naphthalene	mg/kg	4	20	500		0.0052 U	0.32 U	0.0024 U	0.0033 U
	n-Propylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0013 U	0.081 U	0.0006 U	0.00082 U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,2,4-Trichlorobenzene	mg/kg	2	6	700		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,3,5-Trimethylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,2,4-Trimethylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Ethyl ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Isopropyl Ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,4-Dioxane	mg/kg	0.2	6	20		0.1 U	6.4 U	0.048 U	0.065 U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

E - Value exceeds calibration range.

N/A - Not applicable.

NS - No MassDEP standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed standards/criteria.

VOCs - Volatile Organic Compounds.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413					
						Lab Sample ID:	L2014666-02		L2016435-01/ L2014666-01/ L2014666-02		L2016435-02/ L2014666-03/ L2014666-04	
						Sample Depth^:	2 ft		0-5/2 ft		5-10/10 ft	
						Sample Date:	4/6/2020		4/6/2020		4/6/2020	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*		Low VOC		High VOC			
SVOCs												
	Acenaphthene	mg/kg	4	NS	NS		NA		0.16	U	0.15	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		NA		0.2	U	0.19	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		NA		0.2	U	0.19	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		NA		0.2	U	0.19	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		NA		0.2	U	0.19	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	Azobenzene	mg/kg	NS	NS	NS		NA		0.2	U	0.19	U
	Fluoranthene	mg/kg	1,000	NS	NS		NA		**0.28**		0.11	U
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		NA		0.21	U	0.2	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		NA		0.2	U	0.19	U
	Hexachloroethane	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Isophorone	mg/kg	100	NS	NS		NA		0.18	U	0.17	U
	Naphthalene	mg/kg	4	NS	NS		NA		0.2	U	0.19	U
	Nitrobenzene	mg/kg	500	NS	NS		NA		0.18	U	0.17	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		NA		0.2	U	0.19	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	Di-n-butylphthalate	mg/kg	50	NS	NS		NA		0.2	U	0.19	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	Diethyl phthalate	mg/kg	10	NS	NS		NA		0.2	U	0.19	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Benzo(a)anthracene	mg/kg	7	NS	NS		NA		**0.14**		0.11	U
	Benzo(a)pyrene	mg/kg	2	NS	NS		NA		**0.16**		0.15	U
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		NA		**0.19**		0.11	U
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		NA		0.12	U	0.11	U
	Chrysene	mg/kg	70	NS	NS		NA		**0.15**		0.11	U
	Acenaphthylene	mg/kg	1	NS	NS		NA		0.16	U	0.15	U
	Anthracene	mg/kg	1,000	NS	NS		NA		0.12	U	0.11	U
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		NA		0.16	U	0.15	U
	Fluorene	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	Phenanthrene	mg/kg	10	NS	NS		NA		**0.16**		0.11	U
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		NA		0.16	U	0.15	U
	Pyrene	mg/kg	1,000	NS	NS		NA		**0.26**		0.11	U
	Aniline	mg/kg	1,000	NS	NS		NA		0.24	U	0.22	U
	4-Chloroaniline	mg/kg	1	NS	NS		NA		0.2	U	0.19	U
	Dibenzofuran	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Acetophenone	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2-Chlorophenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2-Nitrophenol	mg/kg	100	NS	NS		NA		0.43	U	0.4	U
	4-Nitrophenol	mg/kg	100	NS	NS		NA		0.28	U	0.26	U
	2,4-Dinitrophenol	mg/kg	3	NS	NS		NA		0.95	U	0.9	U
	Pentachlorophenol	mg/kg	3	NS	NS		NA		0.4	U	0.38	U
	Phenol	mg/kg	1	NS	NS		NA		0.2	U	0.19	U
	2-Methylphenol	mg/kg	500	NS	NS		NA		0.2	U	0.19	U
	3-Methylphenol/4-Methylphenol	mg/kg	500	NS	NS		NA		0.28	U	0.27	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		NA		0.2	U	0.19	U

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLX-TPW-413			
						Lab Sample ID:		L2016435-01/ L2014666-01/ L2014666-02		L2016435-02/ L2014666-03/ L2014666-04	
						Sample Depth^:		2 ft		0-5/2 ft		5-10/10 ft	
						Sample Date:		4/6/2020		4/6/2020		4/6/2020	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*		Low VOC		High VOC			
	Pyridine	mg/kg	500	NS	NS	NA		0.21	U	0.2	U
	Total SVOCs	mg/kg	N/A	100	100	*NA*		***1.34***		*ND*	
Pesticides											
	Delta-BHC	mg/kg	10	NS	NS	NA		0.00190	U	0.00171	U
	Lindane	mg/kg	0.003	NS	NS	NA		0.000634	U	0.000569	U
	Alpha-BHC	mg/kg	50	NS	NS	NA		0.000792	U	0.000711	U
	Beta-BHC	mg/kg	10	NS	NS	NA		0.00190	U	0.00171	U
	Heptachlor	mg/kg	0.3	NS	NS	NA		0.000951	U	0.000853	U
	Aldrin	mg/kg	0.08	NS	NS	NA		0.00190	U	0.00171	U
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		0.00356	U	0.00320	U
	Endrin	mg/kg	10	NS	NS	NA		0.000792	U	0.000711	U
	Endrin ketone	mg/kg	NS	NS	NS	NA		0.00190	U	0.00171	U
	Dieldrin	mg/kg	0.08	NS	NS	NA		0.00119	U	0.00107	U
	4,4'-DDE	mg/kg	6	NS	NS	NA		0.00190	U	0.00171	U
	4,4'-DDD	mg/kg	8	NS	NS	NA		0.00190	U	0.00171	U
	4,4'-DDT	mg/kg	6	NS	NS	NA		**0.0137**		0.00320	U
	Endosulfan I	mg/kg	0.5	NS	NS	NA		0.00190	U	0.00171	U
	Endosulfan II	mg/kg	0.5	NS	NS	NA		0.00190	U	0.00171	U
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		0.000792	U	0.000711	U
	Methoxychlor	mg/kg	200	NS	NS	NA		0.00356	U	0.00320	U
	Chlordane	mg/kg	0.7	NS	NS	NA		0.0158	U	0.0142	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		0.00190	U	0.00171	U
Herbicides											
	MCPP	mg/kg	NS	NS	NS	NA		4	U	3.7	U
	MCPA	mg/kg	100	NS	NS	NA		4	U	3.7	U
	Dalapon	mg/kg	1,000	NS	NS	NA		0.04	U	0.037	U
	Dicamba	mg/kg	500	NS	NS	NA		0.04	U	0.037	U
	Dichloroprop	mg/kg	NS	NS	NS	NA		0.04	U	0.037	U
	2,4-D	mg/kg	100	NS	NS	NA		0.04	U	0.037	U
	2,4-DB	mg/kg	100	NS	NS	NA		0.04	U	0.037	U
	2,4,5-T	mg/kg	100	NS	NS	NA		0.04	U	0.037	U
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		0.04	U	0.037	U
PCB Aroclors											
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U
	PCBs, Total	mg/kg	1	2	2	NA		0.0396	U	0.0364	U
TPH											
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	NA		39.4	U	36.7	U
Metals, total											
	Arsenic	mg/kg	20	40	40	NA		**8.37**		**5.91**	
	Barium	mg/kg	1,000	NS	NS	NA		**53.8**		**71.5**	
	Cadmium	mg/kg	70	30	80	NA		0.458	U	0.442	U
	Chromium	mg/kg	100	1,000	1,000	NA		**24.2**		**37.2**	
	Lead	mg/kg	200	1,000	2,000	NA		**54.2**		**7.39**	
	Mercury	mg/kg	20	10	10	NA		**0.118**		0.083	U
	Selenium	mg/kg	400	NS	NS	NA		2.29	U	2.21	U
	Silver	mg/kg	100	NS	NS	NA		0.458	U	0.442	U
General Chemistry											
	Ignitability		NS	N/A	N/A	NA		NI		NI	
	Specific conductance	umhos/cm	NS	4,000	8,000	NA		**47**		**21**	
	pH	su	NS	>2 <12.5	>2 <12.5	NA		**7.6**		**7.9**	

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413		
						Lab Sample ID:	L2016435-01/ L2014666-01/ L2014666-02	L2016435-02/ L2014666-03/ L2014666-04	
						Sample Depth^:	2 ft	0-5/2 ft	5-10/10 ft
						Sample Date:	4/6/2020	4/6/2020	4/6/2020
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*		Low VOC	High VOC	
	Reactive Cyanide	mg/kg	NS	< 250	< 250		NA	10 U	10 U
	Reactive Sulfide	mg/kg	NS	< 500	< 500		NA	10 U	10 U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TPH - Total Petroleum Hydrocarbons.

* - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

(1) - MassDEP RC for C9-C10 aromatics used.

(2) - MassDEP RC for Dichloropropene used.

(3) - MassDEP RC for Dichloropropane used.

(4) - MassDEP RC for Chlorotoluene used.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION	WASH-MH212-DC-COMP		Wash-MH186-DC-Comp	
					SAMPLING DATE	7/17/2020		08/07/2020	
					LAB SAMPLE ID	20G1285-01		20H0388-01	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	RCS-1-14	RCS-2-14	Units	Results	Qual	Results	Qual
General Chemistry									
	Specific Conductance @ 25 C	SC			umhos/cm	42		16	
	Solids, Total	TSOLIDS			%	96.1		91.5	
	pH (H)	12408-02-5			SU	4	U	7.7	
	Cyanide, Reactive	GIS-250-012			mg/kg	20	U	4	U
	Sulfide, Reactive	RSULF			mg/kg	8.9		20	U
Ignitability of Solids									
	Ignitability	IGNIT				Absent		Absent	
MCP Chlorinated Herbicides									
	2,4-D	94-75-7	100	1000	mg/kg	0.026	U	0.027	U
	2,4-DB	94-82-6	100	1000	mg/kg	0.026	U	0.027	U
	2,4,5-TP (Silvex)	93-72-1	100	1000	mg/kg	0.0026	U	0.0027	U
	2,4,5-T	93-76-5	100	1000	mg/kg	0.0026	U	0.0027	U
	Dalapon	75-99-0	1000	10000	mg/kg	0.064	U	0.067	U
	Dicamba	1918-00-9	500	5000	mg/kg	0.0026	U	0.0027	U
	Dichloroprop	120-36-5			mg/kg	0.026	U	0.027	U
	Dinoseb	88-85-7	500	5000	mg/kg	0.013	U	0.013	U
	MCPA	94-74-6	100	1000	mg/kg	2.6	U	2.7	U
	MCPP	93-65-2			mg/kg	2.6	U	2.7	U
MCP Organochlorine Pesticides									
	Aldrin	309-00-2	0.08	0.5	mg/kg	0.052	U	0.054	U
	Alpha-BHC	319-84-6	50	500	mg/kg	0.052	U	0.054	U
	Beta-BHC	319-85-7	10	100	mg/kg	0.052	U	0.054	U
	Delta-BHC	319-86-8	10	100	mg/kg	0.052	U	0.054	U
	Lindane	58-89-9	0.003	0.5	mg/kg	0.021	U	0.021	U
	Chlordane	57-74-9	0.7	30	mg/kg	0.21	U	0.21	U
	4,4'-DDD	72-54-8	8	40	mg/kg	0.042	U	0.043	U
	4,4'-DDE	72-55-9	6	30	mg/kg	0.042	U	0.043	U
	4,4'-DDT	50-29-3	6	30	mg/kg	0.21		0.043	U
	Dieldrin	60-57-1	0.08	0.5	mg/kg	0.042	U	0.043	U
	Endosulfan I	959-98-8	0.5	1	mg/kg	0.052	U	0.054	U
	Endosulfan II	33213-65-9	0.5	1	mg/kg	0.083	U	0.086	U
	Endosulfan sulfate	1031-07-8			mg/kg	0.083	U	0.086	U
	Endrin	72-20-8	10	20	mg/kg	0.083	U	0.086	U
	Endrin ketone	53494-70-5			mg/kg	0.083	U	0.086	U
	Heptachlor	76-44-8	0.3	2	mg/kg	0.052	U	0.054	U
	Heptachlor epoxide	1024-57-3	0.1	0.9	mg/kg	0.052	U	0.054	U
	Hexachlorobenzene	118-74-1	0.7	0.8	mg/kg	0.062	U	0.064	U
	Methoxychlor	72-43-5	200	400	mg/kg	0.52	U	0.54	U
MCP Polychlorinated Biphenyls									
	Aroclor 1016	12674-11-2	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1221	11104-28-2	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1232	11141-16-5	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1242	53469-21-9	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1248	12672-29-6	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1254	11097-69-1	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1260	11096-82-5	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1262	37324-23-5	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1268	11100-14-4	1	4	mg/kg	0.081	U	0.087	U
	PCBs, Total	1336-36-3	1	4	mg/kg	0.081	U	0.087	U
MCP Semivolatile Organics									
	Acenaphthene	83-32-9	4	3000	mg/kg	0.18	U	0.18	U
	Acenaphthylene	208-96-8	1	10	mg/kg	0.18	U	0.18	U
	Acetophenone	98-86-2	1000	10000	mg/kg	0.35	U	0.37	U
	Aniline	62-53-3	1000	10000	mg/kg	0.35	U	0.37	U
	Anthracene	120-12-7	1000	3000	mg/kg	0.18	U	0.18	U
	Benzo(a)anthracene	56-55-3	7	40	mg/kg	0.47		0.44	
	Benzo(a)pyrene	50-32-8	2	7	mg/kg	0.45		0.43	
	Benzo(b)fluoranthene	205-99-2	7	40	mg/kg	0.59		0.55	
	Benzo(ghi)perylene	191-24-2	1000	3000	mg/kg	0.26		0.24	
	Benzo(k)fluoranthene	207-08-9	70	400	mg/kg	0.23		0.2	
	Bis(2-chloroethoxy)methane	111-91-1	500	5000	mg/kg	0.35	U	0.37	U
	Bis(2-chloroethyl)ether	111-44-4	0.7	0.7	mg/kg	0.35	U	0.37	U
	Bis(2-chloroisopropyl)ether	39638-32-9	0.7	0.7	mg/kg	0.35	U	0.37	U
	Bis(2-ethylhexyl)phthalate	117-81-7	90	600	mg/kg	0.35	U	0.37	U
	4-Bromophenyl phenyl ether	101-55-3	100	1000	mg/kg	0.35	U	0.37	U
	Butyl benzyl phthalate	85-68-7	100	1000	mg/kg	0.35	U	0.37	U
	4-Chloroaniline	106-47-8	1	3	mg/kg	0.69	U	0.72	U
	2-Chloronaphthalene	91-58-7	1000	10000	mg/kg	0.35	U	0.37	U
	2-Chlorophenol	95-57-8	0.7	100	mg/kg	0.35	U	0.37	U
	Chrysene	218-01-9	70	400	mg/kg	0.48		0.47	
	Dibenzo(a,h)anthracene	53-70-3	0.7	4	mg/kg	0.18	U	0.18	U
	Dibenzofuran	132-64-9	100	1000	mg/kg	0.35	U	0.37	U
	Di-n-butylphthalate	84-74-2	50	500	mg/kg	0.35	U	0.37	U
	1,2-Dichlorobenzene	95-50-1	9	100	mg/kg	0.35	U	0.37	U
	1,3-Dichlorobenzene	541-73-1	3	200	mg/kg	0.35	U	0.37	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	mg/kg	0.35	U	0.37	U
	3,3'-Dichlorobenzidine	91-94-1	3	20	mg/kg	0.18	U	0.18	U
	2,4-Dichlorophenol	120-83-2	0.7	40	mg/kg	0.35	U	0.37	U
	Diethyl phthalate	84-66-2	10	200	mg/kg	0.35	U	0.37	U
	2,4-Dimethylphenol	105-67-9	0.7	100	mg/kg	0.35	U	0.37	U
	Dimethyl phthalate	131-11-3	0.7	50	mg/kg	0.35	U	0.37	U
	2,4-Dinitrophenol	51-28-5	3	50	mg/kg	0.69	U	0.72	U
	2,4-Dinitrotoluene	121-14-2	0.7	10	mg/kg	0.35	U	0.37	U
	2,6-Dinitrotoluene	606-20-2	100	1000	mg/kg	0.35	U	0.37	U
	Di-n-octylphthalate	117-84-0	1000	10000	mg/kg	0.35	U	0.37	U
	Azobenzene	122-66-7	50	500	mg/kg	0.35	U	0.37	U
	Fluoranthene	206-44-0	1000	3000	mg/kg	0.92		0.84	
	Fluorene	86-73-7	1000	3000	mg/kg	0.18	U	0.18	U
	Hexachlorobenzene	118-74-1	0.7	0.8	mg/kg	0.35	U	0.37	U
	Hexachlorobutadiene	87-68-3	30	100	mg/kg	0.35	U	0.37	U
	Hexachloroethane	67-72-1	0.7	3	mg/kg	0.35	U	0.37	U
	Indeno(1,2,3-cd)pyrene	193-39-5	7	40	mg/kg	0.28		0.3	
	Isophorone	78-59-1	100	1000	mg/kg	0.35	U	0.37	U
	2-Methylnaphthalene	91-57-6	0.7	80	mg/kg	0.18	U	0.18	U
	2-Methylphenol	95-48-7	500	5000	mg/kg	0.35	U	0.37	U
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	500	5000	mg/kg	0.35	U	0.37	U
	Naphthalene	91-20-3	4	20	mg/kg	0.18	U	0.18	U
	Nitrobenzene	98-95-3	500	5000	mg/kg	0.35	U	0.37	U
	2-Nitrophenol	88-75-5	100	1000	mg/kg	0.35	U	0.37	U
	4-Nitrophenol	100-02-7	100	1000	mg/kg	0.69	U	0.72	U
	Pentachlorophenol	87-86-5	3	10	mg/kg	0.35	U	0.37	U
	Phenanthrene	85-01-8	10	1000	mg/kg	0.62		0.6	
	Phenol	108-95-2	1	20	mg/kg	0.35	U	0.37	U
	Pyrene	129-00-0	1000	3000	mg/kg	0.87		0.92	
	Pyridine	110-86-1	500	5000	mg/kg	0.35	U	0.37	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	mg/kg	0.35	U	0.37	U
	2,4,5-Trichlorophenol	95-95-4	4	600	mg/kg	0.35	U	0.37	U

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION	WASH-MH212-DC-COMP		Wash-MH186-DC-Comp	
					SAMPLING DATE	7/17/2020		08/07/2020	
					LAB SAMPLE ID	20G1285-01		20H0388-01	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	RCS-1-14	RCS-2-14	Units	Results	Qual	Results	Qual
	2,4,6-Trichlorophenol	88-06-2	0.7	20	mg/kg	0.35	U	0.37	U
	Total SVOCs				mg/kg	5.17		4.99	
MCP Total Metals									
	Antimony, Total	7440-36-0	20	30	mg/kg	1.7	U	1.8	U
	Arsenic, Total	7440-38-2	20	20	mg/kg	6.2		9.8	
	Barium, Total	7440-39-3	1000	3000	mg/kg	44		64	
	Beryllium, Total	7440-41-7	90	200	mg/kg	0.40		0.47	
	Cadmium, Total	7440-43-9	70	100	mg/kg	0.34	U	0.35	U
	Chromium, Total	7440-47-3	100	200	mg/kg	24		22	
	Lead, Total	7439-92-1	200	600	mg/kg	66		170	
	Mercury, Total	7439-97-6	20	30	mg/kg	0.22		0.14	
	Nickel, Total	7440-02-0	600	1000	mg/kg	22		21	
	Selenium, Total	7782-49-2	400	700	mg/kg	3.4	U	3.5	U
	Silver, Total	7440-22-4	100	200	mg/kg	0.34	U	0.35	U
	Thallium, Total	7440-28-0	8	60	mg/kg	1.7	U	1.8	U
	Vanadium, Total	7440-62-2	400	700	mg/kg	36		41	
	Zinc, Total	7440-66-6	1000	3000	mg/kg	77		90	

U - Not detected at the reported detection limit for the sample.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION	WASH-MH119-DC-COMP		WASH-MH281-DC-COMP	
					SAMPLING DATE	8/18/2020		8/18/2020	
					LAB SAMPLE ID	L2034460-01		L2034460-02	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-LLAND	MA-ULAND	Units	Results	Qual	Results	Qual
General Chemistry									
	Specific Conductance @ 25 C	NONE	8000	4000	umhos/cm	100		190	
	Solids, Total	NONE			%	91		91.4	
	pH (H)	12408-02-5			SU	7.8		8.1	
	Cyanide, Reactive	57-12-5			mg/kg	10	U	10	U
	Sulfide, Reactive	NONE			mg/kg	10	U	10	U
Ignitability of Solids									
	Ignitability	NONE				NI		NI	
MCP Chlorinated Herbicides									
	MCPP	93-65-2			mg/kg	3.6	U	3.6	U
	MCPA	94-74-6			mg/kg	3.6	U	3.6	U
	Dalapon	75-99-0			mg/kg	0.036	U	0.036	U
	Dicamba	1918-00-9			mg/kg	0.036	U	0.036	U
	Dichloroprop	120-36-5			mg/kg	0.036	U	0.036	U
	2,4-D	94-75-7			mg/kg	0.036	U	0.036	U
	2,4-DB	94-82-6			mg/kg	0.036	U	0.036	U
	2,4,5-T	93-76-5			mg/kg	0.036	U	0.036	U
	2,4,5-TP (Silvex)	93-72-1			mg/kg	0.036	U	0.036	U
MCP Organochlorine Pesticides									
	Delta-BHC	319-86-8			mg/kg	0.00174	U	0.00171	U
	Lindane	58-89-9			mg/kg	0.00058	U	0.000569	U
	Alpha-BHC	319-84-6			mg/kg	0.000724	U	0.000711	U
	Beta-BHC	319-85-7			mg/kg	0.00174	U	0.00171	U
	Heptachlor	76-44-8			mg/kg	0.000869	U	0.000854	U
	Aldrin	309-00-2			mg/kg	0.00174	U	0.00171	U
	Heptachlor epoxide	1024-57-3			mg/kg	0.00326	U	0.0032	U
	Endrin	72-20-8			mg/kg	0.000724	U	0.000711	U
	Endrin ketone	53494-70-5			mg/kg	0.00174	U	0.00171	U
	Dieldrin	60-57-1			mg/kg	0.00109	U	0.00107	U
	4,4'-DDE	72-55-9			mg/kg	0.00174	U	0.00171	U
	4,4'-DDD	72-54-8			mg/kg	0.00174	U	0.00171	U
	4,4'-DDT	50-29-3			mg/kg	0.00326	U	0.0032	U
	Endosulfan I	959-98-8			mg/kg	0.00174	U	0.00171	U
	Endosulfan II	33213-65-9			mg/kg	0.00174	U	0.00171	U
	Endosulfan sulfate	1031-07-8			mg/kg	0.000724	U	0.000711	U
	Methoxychlor	72-43-5			mg/kg	0.00326	U	0.0032	U
	Chlordane	57-74-9			mg/kg	0.0145	U	0.0142	U
	Hexachlorobenzene	118-74-1			mg/kg	0.00174	U	0.00171	U
MCP Polychlorinated Biphenyls									
	Aroclor 1016	12674-11-2			mg/kg	0.0357	U	0.0346	U
	Aroclor 1221	11104-28-2			mg/kg	0.0357	U	0.0346	U
	Aroclor 1232	11141-16-5			mg/kg	0.0357	U	0.0346	U
	Aroclor 1242	53469-21-9			mg/kg	0.0357	U	0.0346	U
	Aroclor 1248	12672-29-6			mg/kg	0.0357	U	0.0346	U
	Aroclor 1254	11097-69-1			mg/kg	0.0357	U	0.0346	U
	Aroclor 1260	11096-82-5			mg/kg	0.0357	U	0.0346	U
	Aroclor 1262	37324-23-5			mg/kg	0.0357	U	0.0346	U
	Aroclor 1268	11100-14-4			mg/kg	0.0357	U	0.0346	U
	PCBs, Total	1336-36-3	2	2	mg/kg	0.0357	U	0.0346	U
MCP Semivolatile Organics									
	Acenaphthene	83-32-9			mg/kg	0.14	U	0.14	
	1,2,4-Trichlorobenzene	120-82-1			mg/kg	0.18	U	0.18	U
	Hexachlorobenzene	118-74-1			mg/kg	0.076	U	0.076	U
	Bis(2-chloroethyl)ether	111-44-4			mg/kg	0.076	U	0.076	U
	2-Chloronaphthalene	91-58-7			mg/kg	0.18	U	0.18	U
	1,2-Dichlorobenzene	95-50-1			mg/kg	0.18	U	0.18	U
	1,3-Dichlorobenzene	541-73-1			mg/kg	0.18	U	0.18	U
	1,4-Dichlorobenzene	106-46-7			mg/kg	0.076	U	0.076	U
	3,3'-Dichlorobenzidine	91-94-1			mg/kg	0.18	U	0.18	U
	2,4-Dinitrotoluene	121-14-2			mg/kg	0.076	U	0.076	U
	2,6-Dinitrotoluene	606-20-2			mg/kg	0.18	U	0.18	U
	Azobenzene	103-33-3			mg/kg	0.18	U	0.18	U
	Fluoranthene	206-44-0			mg/kg	0.27		1.6	
	4-Bromophenyl phenyl ether	101-55-3			mg/kg	0.18	U	0.18	U
	Bis(2-chloroisopropyl)ether	108-60-1			mg/kg	0.076	U	0.076	U
	Bis(2-chloroethoxy)methane	111-91-1			mg/kg	0.2	U	0.2	U
	Hexachlorobutadiene	87-68-3			mg/kg	0.18	U	0.18	U
	Hexachloroethane	67-72-1			mg/kg	0.076	U	0.076	U
	Isophorone	78-59-1			mg/kg	0.16	U	0.16	U
	Naphthalene	91-20-3			mg/kg	0.18	U	0.57	
	Nitrobenzene	98-95-3			mg/kg	0.16	U	0.16	U
	Bis(2-ethylhexyl)phthalate	117-81-7			mg/kg	0.18	U	0.18	U
	Butyl benzyl phthalate	85-68-7			mg/kg	0.18	U	0.18	U
	Di-n-butylphthalate	84-74-2			mg/kg	0.18	U	0.18	U
	Di-n-octylphthalate	117-84-0			mg/kg	0.18	U	0.18	U
	Diethyl phthalate	84-66-2			mg/kg	0.18	U	0.18	U
	Dimethyl phthalate	131-11-3			mg/kg	0.076	U	0.076	U
	Benzo(a)anthracene	56-55-3			mg/kg	0.2		1.3	
	Benzo(a)pyrene	50-32-8			mg/kg	0.17		1.2	
	Benzo(b)fluoranthene	205-99-2			mg/kg	0.26		1.6	
	Benzo(k)fluoranthene	207-08-9			mg/kg	0.11	U	0.36	
	Chrysene	218-01-9			mg/kg	0.16		1.1	
	Acenaphthylene	208-96-8			mg/kg	0.14	U	0.31	
	Anthracene	120-12-7			mg/kg	0.11	U	0.38	
	Benzo(ghi)perylene	191-24-2			mg/kg	0.14	U	0.83	
	Fluorene	86-73-7			mg/kg	0.18	U	0.21	
	Phenanthrene	85-01-8			mg/kg	0.14		1	
	Dibenzo(a,h)anthracene	53-70-3			mg/kg	0.076	U	0.19	
	Indeno(1,2,3-cd)pyrene	193-39-5			mg/kg	0.14	U	0.92	
	Pyrene	129-00-0			mg/kg	0.26		1.8	
	Aniline	62-53-3			mg/kg	0.22	U	0.22	U
	4-Chloroaniline	106-47-8			mg/kg	0.18	U	0.18	U
	Dibenzofuran	132-64-9			mg/kg	0.18	U	0.18	U
	2-Methylnaphthalene	91-57-6			mg/kg	0.076	U	0.29	
	Acetophenone	98-86-2			mg/kg	0.18	U	0.18	U
	2,4,6-Trichlorophenol	88-06-2			mg/kg	0.076	U	0.076	U
	2-Chlorophenol	95-57-8			mg/kg	0.076	U	0.076	U
	2,4-Dichlorophenol	120-83-2			mg/kg	0.076	U	0.076	U
	2,4-Dimethylphenol	105-67-9			mg/kg	0.076	U	0.076	U
	2-Nitrophenol	88-75-5			mg/kg	0.39	U	0.39	U
	4-Nitrophenol	100-02-7			mg/kg	0.25	U	0.25	U
	2,4-Dinitrophenol	51-28-5			mg/kg	0.87	U	0.87	U
	Pentachlorophenol	87-86-5			mg/kg	0.36	U	0.36	U
	Phenol	108-95-2			mg/kg	0.18	U	0.18	U
	2-Methylphenol	95-48-7			mg/kg	0.18	U	0.18	U
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5			mg/kg	0.26	U	0.26	U
	2,4,5-Trichlorophenol	95-95-4			mg/kg	0.18	U	0.18	U
	Pyridine	110-86-1			mg/kg	0.2	U	0.2	U
	Total SVOCs		100	100	mg/kg	1.46		13.8	
MCP Total Metals									
	Antimony, Total	7440-36-0			mg/kg	2.16	U	2.15	U
	Arsenic, Total	7440-38-2	40	40	mg/kg	7.55		5.48	
	Barium, Total	7440-39-3			mg/kg	38.6		41.4	
	Beryllium, Total	7440-41-7			mg/kg	0.216	U	0.215	U
	Cadmium, Total	7440-43-9	80	30	mg/kg	0.565		0.593	
	Chromium, Total	7440-47-3	1000	1000	mg/kg	14.3		17	

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATIO	WASH-MH119-DC-COMP		WASH-MH281-DC-COMP	
					SAMPLING DATE	8/18/2020		8/18/2020	
					LAB SAMPLE ID	L2034460-01		L2034460-02	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-LLAND	MA-ULAND	Units	Results	Qual	Results	Qual
	Lead, Total	7439-92-1	2000	1000	mg/kg	53.1		96.8	
	Mercury, Total	7439-97-6	10	10	mg/kg	0.342		0.165	
	Nickel, Total	7440-02-0			mg/kg	11.5		13.7	
	Selenium, Total	7782-49-2			mg/kg	2.16	U	2.15	U
	Silver, Total	7440-22-4			mg/kg	0.431	U	0.43	U
	Thallium, Total	7440-28-0			mg/kg	2.16	U	2.15	U
	Vanadium, Total	7440-62-2			mg/kg	22.5		20.4	
	Zinc, Total	7440-66-6			mg/kg	52.7		90.6	

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH212(A)-DC-VOC-1		WASH-MH212(B)-DC-VOC-1		WASH-MH212(C)-DC-VOC-1		WASH-MH212(D)-DC-VOC-1	
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		7/17/2020	
						LAB SAMPLE ID	20G1126-01		20G1126-02		20G1126-03		20G1126-04	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035														
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0048		0.0036		0.0046		0.0046	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Benzene	71-43-2	2	40	40	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Chloromethane	74-87-3				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Chloroethane	75-00-3				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	-	-	-	-	-
	Dibromomethane	74-95-3				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Acetone	67-64-1	6	50	400	mg/kg	0.21		0.088	U	0.31		0.20	
	Carbon disulfide	75-15-0				mg/kg	0.0049	U	0.0053	U	0.0046	U	0.0053	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.033	U	0.035	U	0.031	U	0.035	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.016	U	0.018	U	0.015	U	0.018	U
	2-Hexanone	591-78-6				mg/kg	0.016	U	0.018	U	0.015	U	0.018	U
	Bromochloromethane	74-97-5				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromobenzene	108-86-1				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U

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Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

							LOCATION	WASH-MH212(A)-DC-VOC-1		WASH-MH212(B)-DC-VOC-1		WASH-MH212(C)-DC-VOC-1		WASH-MH212(D)-DC-VOC-1	
							SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		7/17/2020	
							LAB SAMPLE ID	20G1126-01		20G1126-02		20G1126-03		20G1126-04	
							SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units		Results	Qual	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	p-Chlorotoluene	106-43-4				mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Naphthalene	91-20-3	4	20	500	mg/kg		0.0033	U	0.0035	U	0.0031	U	0.0035	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg		0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Diethyl ether	60-29-7				mg/kg		0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Diisopropyl Ether	108-20-3				mg/kg		0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg		0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg		0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg		0.082	U	0.088	U	0.077	U	0.088	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH212(E)-DC-VOC-1		WASH-MH212(F)-DC-VOC-1		WASH-MH212(G)-DC-VOC-1		Wash-MH186(A)-DC-VOC		Wash-MH186(B)-DC-VOC
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		8/7/2020		8/7/2020
						LAB SAMPLE ID	20G1126-05		20G1126-06		20G1126-07		20H0387-01		20H0387-02
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results
MCP Volatile Organics by EPA 5035															
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0043		0.0051		0.0022	U	0.0094		0.0087
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Trichlorofluoromethane	75-69-4				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Benzene	71-43-2	2	40	40	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Toluene	108-88-3	30	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Chloromethane	74-87-3				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Chloroethane	75-00-3				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0021		0.0021
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0044		0.0021
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	-	-	-	-	-	-
	Dibromomethane	74-95-3				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Styrene	100-42-5	3	4	70	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Dichlorodifluoromethane	75-71-8				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Acetone	67-64-1	6	50	400	mg/kg	0.19		0.085	U	0.16		0.083	U	0.1
	Carbon disulfide	75-15-0				mg/kg	0.0042	U	0.0051	U	0.0066	U	0.005	U	0.0062
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.028	U	0.034	U	0.044	U	0.033	U	0.041
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.014	U	0.017	U	0.022	U	0.017	U	0.021
	2-Hexanone	591-78-6				mg/kg	0.014	U	0.017	U	0.022	U	0.017	U	0.021
	Bromochloromethane	74-97-5				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Tetrahydrofuran	109-99-9				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,3-Dichloropropane	142-28-9				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromobenzene	108-86-1				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH212(E)-DC-VOC-1		WASH-MH212(F)-DC-VOC-1		WASH-MH212(G)-DC-VOC-1		Wash-MH186(A)-DC-VOC		Wash-MH186(B)-DC-VOC
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		8/7/2020		8/7/2020
						LAB SAMPLE ID	20G1126-05		20G1126-06		20G1126-07		20H0387-01		20H0387-02
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results
	o-Chlorotoluene	95-49-8				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	p-Chlorotoluene	106-43-4				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Diethyl ether	60-29-7				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Diisopropyl Ether	108-20-3				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.07	U	0.085	U	0.11	U	0.083	U	0.1

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION		Wash-MH186(C)-DC-VOC		WASH-MH119A-DC-VOC		WASH-MH119B-DC-VOC		WASH-MH119C-DC-VOC		WASH-MH281A-DC-VOC	
						SAMPLING DATE		8/7/2020		8/18/2020		8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID		20H0387-03		L2033621-02		L2033621-03		L2033621-04		L2033621-06	
						SAMPLE TYPE		SOIL		SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035																	
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	U	0.011	U	0.0038	U	0.005	U	0.0042	U	0.0041	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	U	0.0046	U	0.0011	U	0.0015	U	0.0012	U	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	U	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg		0.010		0.0038		0.0066		0.003		0.0018	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Trichlorofluoromethane	75-69-4				mg/kg	U	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	U	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	U	0.0011	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	U	0.0023	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	U	0.0011	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Benzene	71-43-2	2	40	40	mg/kg	U	0.0023	U	0.0007		0.0005	U	0.00045		0.00048	
	Toluene	108-88-3	30	500	500	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloromethane	74-87-3				mg/kg	U	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	U	0.011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloroethane	75-00-3				mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	U	0.0046	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	U	0.0023	U	0.0011	U	0.0015	U	0.0012	U	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	U	0.0023	U	0.00062		0.00078		0.00042	U	0.00041	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	U	0.0046	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	U	0.0046	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	U	0.0046	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	U	0.0023	U	0.00077		0.001	U	0.00083	U	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	0.00077		0.001	U	0.00083	U	0.00083	U
	Dibromomethane	74-95-3				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Styrene	100-42-5	3	4	70	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	U	0.011	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	U	0.11	U	0.028		0.025	U	0.026		0.028	
	Carbon disulfide	75-15-0				mg/kg	U	0.0069	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	U	0.046	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	U	0.023	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	2-Hexanone	591-78-6				mg/kg	U	0.023	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Tetrahydrofuran	109-99-9				mg/kg	U	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	U	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromobenzene	108-86-1				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U

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Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION		Wash-MH186(C)-DC-VOC		WASH-MH119A-DC-VOC		WASH-MH119B-DC-VOC		WASH-MH119C-DC-VOC		WASH-MH281A-DC-VOC	
						SAMPLING DATE		8/7/2020		8/18/2020		8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID		20H0387-03		L2033621-02		L2033621-03		L2033621-04		L2033621-06	
						SAMPLE TYPE		SOIL		SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	p-Chlorotoluene	106-43-4				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	U	0.0023	U	0.0023	U	0.003	U	0.0025	U	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	U	0.0023	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	U	0.0046	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Diethyl ether	60-29-7				mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Diisopropyl Ether	108-20-3				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	U	0.11	U	0.061	U	0.08	U	0.067	U	0.066	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

							LOCATION	WASH-MH281B-DC-VOC		WASH-MH281C-DC-VOC		WASH-MH281D-DC-VOC	
							SAMPLING DATE	8/18/2020		8/18/2020		8/18/2020	
							LAB SAMPLE ID	L2033621-07		L2033621-08		L2033621-09	
							SAMPLE TYPE	SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035												
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0044	U	0.0038	U	0.0041	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0013	U	0.0012	U	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0013		0.0013		0.0014	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0036	U	0.0031	U	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00044	U	0.00038	U	0.00041	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00044	U	0.00038	U	0.00041	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00044	U	0.00038	U	0.00041	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0036	U	0.0031	U	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00066		0.00068		0.00054	
	Toluene	108-88-3	30	500	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloromethane	74-87-3				mg/kg	0.0036	U	0.0031	U	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloroethane	75-00-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0013	U	0.0012	U	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00044	U	0.00038	U	0.00046	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0018	U	0.0015	U	0.0016	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dibromomethane	74-95-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	0.037		0.032		0.036	
	Carbon disulfide	75-15-0				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0089	U	0.0077	U	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0089	U	0.0077	U	0.0083	U
	2-Hexanone	591-78-6				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0036	U	0.0031	U	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromobenzene	108-86-1				mg/kg	0.0018	U	0.0015	U	0.0016	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U

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Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

							LOCATION	WASH-MH281B-DC-VOC		WASH-MH281C-DC-VOC		WASH-MH281D-DC-VOC	
							SAMPLING DATE	8/18/2020		8/18/2020		8/18/2020	
							LAB SAMPLE ID	L2033621-07		L2033621-08		L2033621-09	
							SAMPLE TYPE	SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	0.0018	U	0.0015	U	0.0016	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0027	U	0.0023	U	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0036	U	0.0031	U	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0036	U	0.0031	U	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Diethyl ether	60-29-7				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.071	U	0.062	U	0.066	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLC-WASH(A)		GLC-WASH(B)		GLX-TPW-401		GLX-TPW-401A		GLX-TPW-402		GLX-TPW-402A		GLX-TPW-403		GLX-TPW-403A		GLX-TPW-404		GLX-TPW-405		GLX-TPW-406			GLX-TPW-407		GLX-TPW-408	
						Sample Depth^:		N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
						Sample Date:		02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																							Low VOC		High VOC					
VOCs																																			
	Methylene chloride	mg/kg	0.1	NS	NS	NA		NA		0.33	U	NA		0.3	U	NA		0.0089	U	NA		0.0036	U	0.0037	U	0.0040	U	0.22	U	0.0030	U	0.0045	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Chloroform	mg/kg	0.2	NS	NS	NA		NA		0.098	U	NA		0.09	U	NA		0.0027	U	NA		0.0011	U	0.0011	U	0.0012	U	0.066	U	0.00091	U	0.0014	U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Tetrachloroethene	mg/kg	1	NS	NS	NA		NA		**0.041**		NA		**2**		NA		0.00089	U	NA		**0.012**		**0.0011**		**0.013**		**0.14**		**0.0096**		**0.14**	
	Chlorobenzene	mg/kg	1	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	**0.0018**	
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Bromoform	mg/kg	0.1	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Benzene	mg/kg	2	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	**0.021**	
	Toluene	mg/kg	30	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	**0.0011**		0.044	U	0.00060	U	0.00090	U
	Ethylbenzene	mg/kg	40	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Chloromethane	mg/kg	100	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	Bromomethane	mg/kg	0.5	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		**0.0023**		NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Chloroethane	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA		NA		0.098	U	NA		0.09	U	NA		0.0027	U	NA		0.0011	U	0.0011	U	0.0012	U	0.066	U	0.00091	U	0.0014	U
	Trichloroethene	mg/kg	0.3	NS	NS	NA		NA		0.033	U	NA		**0.032**		NA		0.00089	U	NA		**0.00050**		0.00037	U	**0.0011**		0.022	U	**0.00083**		**0.014**	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	p/m-Xylene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	o-Xylene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Xylenes (Total)	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		**0.0037**		NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	**0.013**	
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		**0.0037**		NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	**0.013**	
	Dibromomethane	mg/kg	500	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Styrene	mg/kg	3	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	Acetone	mg/kg	6	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.044	U	NA		0.018	U	0.018	U	**0.31**	**E**	0.44	U	**0.051**		0.022	U
	Carbon disulfide	mg/kg	100	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	2-Butanone	mg/kg	4	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	2-Hexanone	mg/kg	100	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	Bromochloromethane	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Bromobenzene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	n-Butylbenzene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA		NA		0.2	U	NA		0.18	U	NA		0.0053	U	NA		0.0021	U	0.0022	U	0.0024	U	0.13	U	0.0018	U	0.0027	U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLC-WASH(A)**		**GLC-WASH(B)**		**GLX-TPW-401**		**GLX-TPW-401A**		**GLX-TPW-402**		**GLX-TPW-402A**		**GLX-TPW-403**		**GLX-TPW-403A**		**GLX-TPW-404**		**GLX-TPW-405**		**GLX-TPW-406**				**GLX-TPW-407**		**GLX-TPW-408**	
		Sample Depth^:				N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
		Sample Date:				02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					Low VOC		High VOC							
	Naphthalene	mg/kg	4	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	n-Propylbenzene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Ethyl ether	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Isopropyl Ether	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	NA		NA		5.2	U	NA		4.8	U	NA		0.14	U	NA		0.057	U	0.059	U	0.064	U	3.5	U	0.048	U	0.072	U
	Total VOCs	mg/kg	N/A	4	10	*NA*		*NA*		***0.041***		*NA*		***2.03***		*NA*		***0.006***		*NA*		***0.013***		***0.001***		***0.325***		***0.140***		***0.061***		***0.190***	
SVOCs																																				
	Acenaphthene	mg/kg	4	NS	NS	1.4	U	**2**		NA		0.14	U	NA		0.15	U	NA		0.15	U	0.15	U	0.14	U	0.14	U	NA		0.14	U	**0.37**	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Azobenzene	mg/kg	NS	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Fluoranthene	mg/kg	1,000	NS	NS	**16**		**17**		NA		**0.12**		NA		**0.21**		NA		0.12	U	**0.55**		0.11	U	0.11	U	NA		0.1	U	**8.8**	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	1.9	U	2	U	NA		0.2	U	NA		0.2	U	NA		0.21	U	0.2	U	0.19	U	0.19	U	NA		0.18	U	0.2	U
	Hexachlorobutadiene	mg/kg	30	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Hexachloroethane	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Isophorone	mg/kg	100	NS	NS	1.6	U	1.6	U	NA		0.16	U	NA		0.16	U	NA		0.17	U	0.16	U	0.16	U	0.16	U	NA		0.15	U	0.17	U
	Naphthalene	mg/kg	4	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		**0.2**		0.18	U	0.18	U	0.18	U	NA		0.17	U	**0.68**	
	Nitrobenzene	mg/kg	500	NS	NS	1.6	U	1.6	U	NA		0.16	U	NA		0.16	U	NA		0.17	U	0.16	U	0.16	U	0.16	U	NA		0.15	U	0.17	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Di-n-butylphthalate	mg/kg	50	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Diethyl phthalate	mg/kg	10	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Benzo(a)anthracene	mg/kg	7	NS	NS	**7**		**7.2**		NA		0.11	U	NA		**0.13**		NA		0.12	U	**0.36**		0.11	U	0.11	U	NA		0.1	U	**5.9**	
	Benzo(a)pyrene	mg/kg	2	NS	NS	**6.3**		**5.8**		NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.45**		0.14	U	0.14	U	NA		0.14	U	**6.2**	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	**8.7**		**8.3**		NA		**0.11**		NA		**0.15**		NA		0.12	U	**0.6**		0.11	U	0.11	U	NA		0.1	U	**7.3**	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	**2.8**		**2.5**		NA		0.11	U	NA		0.11	U	NA		0.12	U	**0.18**		0.11	U	0.11	U	NA		0.1	U	**2.3**	
	Chrysene	mg/kg	70	NS	NS	**6.6**		**7.1**		NA		0.11	U	NA		**0.11**		NA		0.12	U	**0.4**		0.11	U	0.11	U	NA		0.1	U	**5.2**	
	Acenaphthylene	mg/kg	1	NS	NS	1.4	U	1.4	U	NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.21**		0.14	U	0.14	U	NA		0.14	U	**0.88**	
	Anthracene	mg/kg	1,000	NS	NS	**3.5**		**4.2**		NA		0.11	U	NA		0.11	U	NA		0.12	U	**0.19**		0.11	U	0.11	U	NA		0.1	U	**1.9**	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	**4**		**3.1**		NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.46**		0.14	U	0.14	U	NA		0.14	U	**3.4**	
	Fluorene	mg/kg	1,000	NS	NS	1.8	U	**2.2**		NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	**0.62**	
	Phenanthrene	mg/kg	10	NS	NS	**11**		**20**		NA		0.11	U	NA		0.11	U	NA		0.12	U	**0.3**		0.11	U	0.11	U	NA		0.1	U	**5.8**	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	**0.85**		**0.78**		NA		0.076	U	NA		0.077	U	NA		0.081	U	**0.094**		0.075	U	0.075	U	NA		0.072	U	**0.84**	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	**4.2**		**3.4**		NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.38**		0.14	U	0.14	U	NA		0.14	U	**3.8**	
	Pyrene	mg/kg	1,000	NS	NS	**13**		**15**		NA		**0.12**		NA		**0.2**		NA		**0.12**		**0.56**		0.11	U	0.11	U	NA		0.1	U	**7.6**	
	Aniline	mg/kg	1,000	NS	NS	2.2	U	2.2	U	NA		0.22	U	NA		0.22	U	NA		0.23	U	0.22	U	0.22	U	0.21	U	NA		0.2	U	0.23	U
	4-Chloroaniline	mg/kg	1	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Dibenzofuran	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	**0.48**	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	**0.16**		0.075	U	0.075	U	NA		0.072	U	**0.23**	
	Acetophenone	mg/kg	1,000	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2-Chlorophenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2-Nitrophenol	mg/kg	100	NS	NS	3.9	U	3.9	U	NA		0.39	U	NA		0.39	U	NA		0.42	U	0.4	U	0.39	U	0.39	U	NA		0.37	U	0.41	U
	4-Nitrophenol	mg/kg	100	NS	NS	2.5	U	2.5	U	NA		0.25	U	NA		0.26	U	NA		0.27	U	0.26	U	0.25	U	0.25	U	NA		0.24	U	0.26	U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLC-WASH(A)		GLC-WASH(B)		GLX-TPW-401		GLX-TPW-401A		GLX-TPW-402		GLX-TPW-402A		GLX-TPW-403		GLX-TPW-403A		GLX-TPW-404		GLX-TPW-405		GLX-TPW-406			GLX-TPW-407		GLX-TPW-408	
		Sample Depth^:				N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
		Sample Date:				02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					Low VOC		High VOC					
	2,4-Dinitrophenol	mg/kg	3	NS	NS	8.6	U	8.7	U	NA		0.87	U	NA		0.88	U	NA		0.93	U	0.88	U	0.86	U	0.86	U	NA		0.82	U	0.9	U
	Pentachlorophenol	mg/kg	3	NS	NS	3.6	U	3.6	U	NA		0.36	U	NA		0.36	U	NA		0.39	U	0.37	U	0.36	U	0.36	U	NA		0.34	U	0.38	U
	Phenol	mg/kg	1	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	2-Methylphenol	mg/kg	500	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	2.6	U	2.6	U	NA		0.26	U	NA		0.26	U	NA		0.28	U	0.26	U	0.26	U	0.26	U	NA		0.24	U	0.27	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Pyridine	mg/kg	500	NS	NS	1.9	U	2	U	NA		0.2	U	NA		0.2	U	NA		0.21	U	0.2	U	0.19	U	0.19	U	NA		0.18	U	0.2	U
	Total SVOCs	mg/kg	N/A	100	100	***84.0***		***98.6***		*NA*		***0.350***		*NA*		***0.80***		*NA*		***0.320***		***4.89***		*ND*		*ND*		*NA*		*ND*		***62.3***	
Pesticides																																	
	Delta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Lindane	mg/kg	0.003	NS	NS	NA		NA		NA		NA		NA		0.000566	U	NA		NA		0.000594	U	0.000573	U	0.000563	U	NA		0.000552	U	0.000590	U
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA		NA		NA		NA		0.000707	U	NA		NA		0.000742	U	0.000716	U	0.000704	U	NA		0.000690	U	0.000738	U
	Beta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA		NA		NA		NA		0.000849	U	NA		NA		0.000890	U	0.000859	U	0.000845	U	NA		0.000828	U	0.000885	U
	Aldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA		NA		NA		NA		0.00318	U	NA		NA		0.00334	U	0.00322	U	0.00317	U	NA		0.00310	U	0.00332	U
	Endrin	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.000707	U	NA		NA		0.000742	U	0.000716	U	0.000704	U	NA		0.000690	U	**0.00125**	**IP**
	Endrin ketone	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		0.00106	U	NA		NA		0.00111	U	0.00107	U	0.00106	U	NA		0.00104	U	0.00111	U
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		0.00318	U	NA		NA		0.00334	U	0.00322	U	0.00317	U	NA		0.00310	U	0.00332	U
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		0.000707	U	NA		NA		0.000742	U	0.000716	U	0.000704	U	NA		0.000690	U	0.000738	U
	Methoxychlor	mg/kg	200	NS	NS	NA		NA		NA		NA		NA		0.00318	U	NA		NA		0.00334	U	0.00322	U	0.00317	U	NA		0.00310	U	0.00332	U
	Chlordane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		0.0141	U	NA		NA		0.0148	U	0.0143	U	0.0141	U	NA		0.0138	U	0.0148	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
Herbicides																																	
	MCPP	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		3.7	U	NA		NA		3.7	U	3.6	U	3.6	U	NA		3.5	U	3.7	U
	MCPA	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		3.7	U	NA		NA		3.7	U	3.6	U	3.6	U	NA		3.5	U	3.7	U
	Dalapon	mg/kg	1,000	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	Dicamba	mg/kg	500	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4-D	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4-DB	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4,5-T	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
PCB Aroclors																																	
	Aroclor-1016	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1221	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1232	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1242	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1248	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1254	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1260	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1262	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1268	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	PCBs, Total	mg/kg	1	2	2	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
TPH																																	
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	**216**		**195**		NA		**114**		NA		**35.5**		NA		112	U	**122**		35.3	U	35.8	U	NA		34.1	U	**397**	
Metals, total																																	
	Antimony	mg/kg	20	NS	NS	**2.59**		**2.32**		2.10	U	NA		2.35	U	NA		2.40	U	NA		NA		NA		NA		NA		NA		NA	
	Arsenic	mg/kg	20	40	40	**8.13**		**9.58**		**2.31**		**4.02**		**14.3**		NA		**4.48**		**2.55**		**9.38**		**5.37**		**2.92**		NA		**1.42**		**6.77**	
	Barium	mg/kg	1,000	NS	NS	**26.6**		**48.5**		**14.9**		**24.6**		**35.9**		NA		**33.4**		**13.6**		**46.0**		**22.9**		**18.9**		NA		**11.6**		**26.9**	
	Beryllium	mg/kg	90	NS	NS	**0.231**		**0.276**		0.210	U	NA		**0.466**		NA		0.240	U	NA		NA		NA		NA		NA		NA		NA	
	Cadmium	mg/kg	70	30	80	**0.886**		**0.903**		**0.458**		**0.828**		**0.471**		NA		0.480	U	0.443	U	**1.03**		**0.435**		0.431	U	NA		**0.725**		**0.776**	
	Chromium	mg/kg	100	1,000	1,000	**10.4**		**14.2**		**6.72**		**11.9**		**34.4**		NA		**8.72**		**4.78**		**24.9**		**11.6**		**5.82**		NA		**11.7**		**13.8**	
	Lead	mg/kg	200	1,000	2,000	**96.4**		**198**		**6.31**		**31.7**		**75.0**		NA		**87.3**		**6.82**		**60.9**		**4.10**		**6.26**		NA		**2.32**		**129**	
	Mercury	mg/kg	20	10	10	**0.142**		**0.154**		NA		0.080	U	NA		0.082	U	NA		0.086	U	**0.10**		0.082	U	0.077	U	NA		0.079	U	**0.791**	
	Nickel	mg/kg	600	NS	NS	**8.94**		**10.7**		**5.46**		NA		**31.1**		NA		**6.52**		NA		NA		NA		NA		NA		NA		NA	
	Selenium	mg/kg	400	NS	NS	2.18	U	2.12	U	2.10	U	2.12	U	2.35	U	NA		2.40	U	2.21	U	2.12	U	2.13	U	2.15	U	NA		2.08	U	2.26	U
	Silver	mg/kg	100	NS	NS	0.437	U	0.424	U	0.420	U	0.425	U	0.471	U	NA		0.480	U	0.443	U	0.424	U	0.427	U	0.431	U	NA		0.416	U	0.451	U
	Thallium	mg/kg	8	NS	NS	2.18	U	2.12	U	2.10	U	NA		2.35	U	NA		2.40	U	NA		NA		NA		NA		NA		NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					Sample Location:	**GLC-WASH(A)**		**GLC-WASH(B)**		**GLX-TPW-401**		**GLX-TPW-401A**		**GLX-TPW-402**		**GLX-TPW-402A**		**GLX-TPW-403**		**GLX-TPW-403A**		**GLX-TPW-404**		**GLX-TPW-405**		**GLX-TPW-406**				**GLX-TPW-407**		**GLX-TPW-408**	
					Sample Depth^:	N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
					Sample Date:	02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					Low VOC		High VOC					
	Vanadium	mg/kg	400	NS	NS	**12.9**		**14.7**		**7.86**		NA		**32.7**		NA		**13.3**		NA		NA		NA		NA		NA		NA		NA	
	Zinc	mg/kg	1,000	NS	NS	**77.5**		**113**		**24.6**		NA		**127**		NA		**73.9**		NA		NA		NA		NA		NA		NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLC-WASH(A)**		**GLC-WASH(B)**		**GLX-TPW-401**		**GLX-TPW-401A**		**GLX-TPW-402**		**GLX-TPW-402A**		**GLX-TPW-403**		**GLX-TPW-403A**		**GLX-TPW-404**		**GLX-TPW-405**		**GLX-TPW-406**				**GLX-TPW-407**		**GLX-TPW-408**	
		Sample Depth^:				N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft			
		Sample Date:				02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020			
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					Low VOC		High VOC							
Metals, TCLP																																			
	Lead	mg/L	5*	NS	NS	NA		0.500	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.500	U
General Chemistry																																			
	Ignitability	none	NS	NS	NS	NI		NI		NA		NI		NA		NI		NA		NI		NI		NI		NI		NA		NI		NI	
	Specific conductance	umhos/cm	NS	4,000	8,000	**34**		**41**		NA		**160**		NA		**40**		NA		**84**		**81**		**60**		**120**		NA		**91**		**60**	
	pH	su	NS	>2 <12.5	>2 <12.5	**8.4**		**8.6**		**6.8**		**9.0**		**9.2**		**8.9**		**10.0**		**8.1**		**7.8**		**8.0**		**9.8**		NA		**9.8**		**8.5**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	10	U	NA		10	U	NA		10	U	NA		10	U	10	U	10	U	10	U	NA		10	U	10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	10	U	NA		10	U	NA		10	U	NA		10	U	10	U	10	U	10	U	NA		10	U	10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					Sample Location:	**GLX-TPW-409**		**GLX-TPW-410**		**GLX-TPW-411**		**GLX-TPW-412**		**GLX-TPW-601**								**GLX-TPW-602**								**GLX-TPW-603**			
					Sample Depth^:	0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft		0-2/2 ft		2-5/3 ft		5-8/6 ft		0-8 ft		0-2/2 ft		2-5/4.5 ft		5-8/6.5 ft		0-5 ft		0-2/1.5 ft		2-5/3 ft	
					Sample Date:	03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																													
VOCs																																		
	Methylene chloride	mg/kg	0.1	NS	NS	0.2	U	0.0043	U	0.0025	U	0.32	U	NA		0.0035	U	0.54	U	0.0038	U	NA		0.28	U	2.4	U	0.0050	U	NA		0.0033	U	0.0033	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Chloroform	mg/kg	0.2	NS	NS	0.059	U	0.0013	U	0.00074	U	0.095	U	NA		0.001	U	0.16	U	0.0011	U	NA		0.084	U	0.71	U	0.0015	U	NA		0.0010	U	0.00098	U
	Carbon tetrachloride	mg/kg	5	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Dibromochloromethane	mg/kg	0.005	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Tetrachloroethene	mg/kg	1	NS	NS	**1.1**		**0.014**		**0.0029**		0.032	U	NA		**0.0012**		**0.7**		0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Chlorobenzene	mg/kg	1	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	0.02	U	**0.00046**		0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Bromodichloromethane	mg/kg	0.1	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Bromoform	mg/kg	0.1	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Benzene	mg/kg	2	NS	NS	0.02	U	0.00043	U	**0.0020**		0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		**0.044**		0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Toluene	mg/kg	30	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		**0.11**		0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Ethylbenzene	mg/kg	40	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Chloromethane	mg/kg	100	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	Bromomethane	mg/kg	0.5	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Vinyl chloride	mg/kg	0.7	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Chloroethane	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,1-Dichloroethene	mg/kg	3	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	0.059	U	0.0013	U	0.00074	U	0.095	U	NA		0.001	U	0.16	U	0.0011	U	NA		0.084	U	0.71	U	0.0015	U	NA		0.0010	U	0.00098	U
	Trichloroethene	mg/kg	0.3	NS	NS	**0.05**		**0.0012**		0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	p/m-Xylene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	o-Xylene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		**0.078**		0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Xylenes (Total)	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		**0.078**		0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	0.039	U	**0.0013**		0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	0.039	U	**0.0013**		0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Dibromomethane	mg/kg	500	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Styrene	mg/kg	3	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	Acetone	mg/kg	6	NS	NS	0.39	U	0.022	U	**0.11**		0.63	U	NA		**0.097**		1.1	U	**0.034**		NA		0.56	U	4.7	U	**0.11**		NA		**0.022**		**0.027**	
	Carbon disulfide	mg/kg	100	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	2-Butanone	mg/kg	4	NS	NS	0.39	U	0.0087	U	**0.0055**		0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	2-Hexanone	mg/kg	100	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	Bromochloromethane	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Tetrahydrofuran	mg/kg	500	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,3-Dichloropropane	mg/kg	500	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Bromobenzene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	n-Butylbenzene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	sec-Butylbenzene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	tert-Butylbenzene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	o-Chlorotoluene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	p-Chlorotoluene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	0.12	U	0.0026	U	0.0015	U	0.19	U	NA		0.0021	U	0.33	U	0.0023	U	NA		0.17	U	1.4	U	0.0030	U	NA		0.0020	U	0.0020	U
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	Isopropylbenzene	mg/kg	1,000	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	p-Isopropyltoluene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-409**		**GLX-TPW-410**		**GLX-TPW-411**		**GLX-TPW-412**		**GLX-TPW-601**				**GLX-TPW-602**				**GLX-TPW-603**		
		Sample Depth^:				0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft		0-2/2 ft		2-5/3 ft		5-8/6 ft		0-8 ft		0-2/2 ft	
		Sample Date:				03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																				
	Naphthalene	mg/kg	4	NS	NS	0.16	U	0.0035	U	0.0020	U	**14**		NA		0.0028	U	0.43	U	0.0030	U	NA		**1**	
	n-Propylbenzene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	Ethyl ether	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	Isopropyl Ether	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	3.1	U	0.069	U	0.04	U	5.1	U	NA		0.056	U	8.7	U	0.061	U	NA		4.5	U
	Total VOCs	mg/kg	N/A	4	10	***1.15***		***0.017***		***0.120***		***14***		*NA*		***0.098***		***0.70***		***0.034***		*NA*		***1.23***	
SVOCs																									
	Acenaphthene	mg/kg	4	NS	NS	**0.18**		0.15	U	0.74	U	**3.1**		NA		NA		NA		NA		NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Azobenzene	mg/kg	NS	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Fluoranthene	mg/kg	1,000	NS	NS	**4.3**		**0.2**		**20**		**9.9**		NA		NA		NA		NA		NA		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	0.2	U	0.2	U	1	U	0.37	U	NA		NA		NA		NA		NA		NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Hexachloroethane	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	Isophorone	mg/kg	100	NS	NS	0.16	U	0.17	U	0.84	U	0.31	U	NA		NA		NA		NA		NA		NA	
	Naphthalene	mg/kg	4	NS	NS	**0.46**		0.19	U	**1.3**		**9.9**		NA		NA		NA		NA		NA		NA	
	Nitrobenzene	mg/kg	500	NS	NS	0.16	U	0.17	U	0.84	U	0.31	U	NA		NA		NA		NA		NA		NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Diethyl phthalate	mg/kg	10	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS	**2.2**		0.11	U	**10**		**4.1**		NA		NA		NA		NA		NA		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS	**1.9**		0.15	U	**11**		**5**		NA		NA		NA		NA		NA		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	**2.2**		0.11	U	**14**		**5.3**		NA		NA		NA		NA		NA		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	**0.71**		0.11	U	**4.4**		**1.8**		NA		NA		NA		NA		NA		NA	
	Chrysene	mg/kg	70	NS	NS	**1.8**		0.11	U	**9.8**		**3.5**		NA		NA		NA		NA		NA		NA	
	Acenaphthylene	mg/kg	1	NS	NS	**0.25**		0.15	U	**1.6**		**1.2**		NA		NA		NA		NA		NA		NA	
	Anthracene	mg/kg	1,000	NS	NS	**0.87**		0.11	U	**2.1**		**4**		NA		NA		NA		NA		NA		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	**0.89**		0.15	U	**6.6**		**2.5**		NA		NA		NA		NA		NA		NA	
	Fluorene	mg/kg	1,000	NS	NS	**0.31**		0.19	U	0.93	U	**4**		NA		NA		NA		NA		NA		NA	
	Phenanthrene	mg/kg	10	NS	NS	**2.3**		**0.13**		**6.1**		**13**		NA		NA		NA		NA		NA		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	**0.24**		0.08	U	**1.5**		**0.56**		NA		NA		NA		NA		NA		NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	**1**		0.15	U	**7.2**		**2.8**		NA		NA		NA		NA		NA		NA	
	Pyrene	mg/kg	1,000	NS	NS	**3.6**		**0.17**		**19**		**8.4**		NA		NA		NA		NA		NA		NA	
	Aniline	mg/kg	1,000	NS	NS	0.22	U	0.23	U	1.1	U	0.41	U	NA		NA		NA		NA		NA		NA	
	4-Chloroaniline	mg/kg	1	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	Dibenzofuran	mg/kg	100	NS	NS	**0.21**		0.19	U	0.93	U	**3.3**		NA		NA		NA		NA		NA		NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	**0.15**		0.08	U	**0.49**		**3.1**		NA		NA		NA		NA		NA		NA	
	Acetophenone	mg/kg	1,000	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA	
	2-Nitrophenol	mg/kg	100	NS	NS	0.39	U	0.41	U	2	U	0.74	U	NA		NA		NA		NA		NA		NA	
	4-Nitrophenol	mg/kg	100	NS	NS	0.26	U	0.26	U	1.3	U	0.48	U	NA		NA		NA		NA		NA		NA	

		Sample Location:				**GLX-TPW-602**				**GLX-TPW-603**		
		Sample Depth^:				0-2/4.5 ft		0-2/6.5 ft		0-5 ft	0-2/1.5 ft	2-5/3 ft
		Sample Date:				10/20/2019		10/20/2019		10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**							
	Naphthalene	mg/kg	4	NS	NS	**93**		0.0040	U	NA	0.0027 U	0.0026 U
	n-Propylbenzene	mg/kg	100	NS	NS	0.47	U	0.0010	U	NA	0.00066 U	0.00065 U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	**1.2**		0.0020	U	NA	0.0013 U	0.0013 U
	Ethyl ether	mg/kg	100	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	Isopropyl Ether	mg/kg	100	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	0.94	U	0.0020	U	NA	0.0013 U	0.0013 U
	1,4-Dioxane	mg/kg	0.2	NS	NS	38	U	0.08	U	NA	0.053 U	0.052 U
	Total VOCs	mg/kg	N/A	4	10	***94.2***		***0.110***		*NA*	***0.022***	***0.027***
SVOCs												
	Acenaphthene	mg/kg	4	NS	NS	NA		NA		NA	NA	NA
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		NA		NA	NA	NA
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA		NA		NA	NA	NA
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA		NA		NA	NA	NA
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	NA		NA		NA	NA	NA
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	NA		NA		NA	NA	NA
	Azobenzene	mg/kg	NS	NS	NS	NA		NA		NA	NA	NA
	Fluoranthene	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	NA		NA		NA	NA	NA
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	NA		NA		NA	NA	NA
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA		NA		NA	NA	NA
	Hexachloroethane	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	Isophorone	mg/kg	100	NS	NS	NA		NA		NA	NA	NA
	Naphthalene	mg/kg	4	NS	NS	NA		NA		NA	NA	NA
	Nitrobenzene	mg/kg	500	NS	NS	NA		NA		NA	NA	NA
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	NA		NA		NA	NA	NA
	Butyl benzyl phthalate	mg/kg	100	NS	NS	NA		NA		NA	NA	NA
	Di-n-butylphthalate	mg/kg	50	NS	NS	NA		NA		NA	NA	NA
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	Diethyl phthalate	mg/kg	10	NS	NS	NA		NA		NA	NA	NA
	Dimethyl phthalate	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	Benzo(a)anthracene	mg/kg	7	NS	NS	NA		NA		NA	NA	NA
	Benzo(a)pyrene	mg/kg	2	NS	NS	NA		NA		NA	NA	NA
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	NA		NA		NA	NA	NA
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	NA		NA		NA	NA	NA
	Chrysene	mg/kg	70	NS	NS	NA		NA		NA	NA	NA
	Acenaphthylene	mg/kg	1	NS	NS	NA		NA		NA	NA	NA
	Anthracene	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	Fluorene	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	Phenanthrene	mg/kg	10	NS	NS	NA		NA		NA	NA	NA
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	NA		NA		NA	NA	NA
	Pyrene	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	Aniline	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	4-Chloroaniline	mg/kg	1	NS	NS	NA		NA		NA	NA	NA
	Dibenzofuran	mg/kg	100	NS	NS	NA		NA		NA	NA	NA
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	Acetophenone	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	2-Chlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA
	2-Nitrophenol	mg/kg	100	NS	NS	NA		NA		NA	NA	NA
	4-Nitrophenol	mg/kg	100	NS	NS	NA		NA		NA	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLX-TPW-409		GLX-TPW-410		GLX-TPW-411		GLX-TPW-412		GLX-TPW-601				GLX-TPW-602				GLX-TPW-603		
						Sample Depth^:		0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft	0-2/2 ft	2-5/3 ft	5-8/6 ft	0-8 ft	0-2/2 ft	2-5/4.5 ft	5-8/6.5 ft	0-5 ft	0-2/1.5 ft	2-5/3 ft
						Sample Date:		03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.88	U	0.91	U	4.4	U	1.6	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	mg/kg	3	NS	NS	0.36	U	0.38	U	1.8	U	0.68	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenol	mg/kg	1	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylphenol	mg/kg	500	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.26	U	0.27	U	1.3	U	0.49	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyridine	mg/kg	500	NS	NS	0.2	U	0.2	U	1	U	0.37	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total SVOCs	mg/kg	N/A	100	100	***23.6***		***0.50***		***115***		***85.5***		*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Pesticides																										
	Delta-BHC	mg/kg	10	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lindane	mg/kg	0.003	NS	NS	0.000581	U	0.000608	U	0.00290	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Alpha-BHC	mg/kg	50	NS	NS	0.000727	U	0.000760	U	0.00362	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beta-BHC	mg/kg	10	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor	mg/kg	0.3	NS	NS	0.000872	U	0.000912	U	0.00435	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aldrin	mg/kg	0.08	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor epoxide	mg/kg	0.1	NS	NS	0.00327	U	0.00342	U	0.0163	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin	mg/kg	10	NS	NS	0.000727	U	0.000760	U	0.00362	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin ketone	mg/kg	10	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dieldrin	mg/kg	0.08	NS	NS	0.00109	U	0.00114	U	0.00544	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDE	mg/kg	6	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDD	mg/kg	8	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDT	mg/kg	6	NS	NS	0.00327	U	0.00342	U	**0.0320**		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan I	mg/kg	0.5	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan II	mg/kg	0.5	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan sulfate	mg/kg	0.5	NS	NS	0.000727	U	0.000760	U	0.00362	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methoxychlor	mg/kg	200	NS	NS	0.00327	U	0.00342	U	0.0163	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlordane	mg/kg	0.7	NS	NS	0.0145	U	0.0152	U	**0.123**		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.00174	U	0.00182	U	0.00870	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides																										
	MCPP	mg/kg	NS	NS	NS	3.6	U	3.8	U	3.7	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MCPA	mg/kg	100	NS	NS	3.6	U	3.8	U	3.7	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dalapon	mg/kg	1,000	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dicamba	mg/kg	500	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroprop	mg/kg	NS	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-D	mg/kg	100	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-DB	mg/kg	100	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-T	mg/kg	100	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	0.036	U	0.038	U	0.037	U	NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB Aroclors																										
	Aroclor-1016	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1221	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1232	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1242	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1248	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1254	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1260	mg/kg	1	NS	NS	0.0355	U	0.0363	U	**0.0886**		0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1262	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	Aroclor-1268	mg/kg	1	NS	NS	0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
	PCBs, Total	mg/kg	1	2	2	0.0355	U	0.0363	U	**0.0886**		0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	NA	0.034	U	NA	NA
TPH																										
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	**527**		**110**		**1,450**		**308**		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																										
	Antimony	mg/kg	20	NS	NS	NA		NA		2.20	U	NA		2.10	U	NA	NA	NA	**3.16**		NA	NA	NA	1.98	U	NA	NA
	Arsenic	mg/kg	20	40	40	**11.6**		**3.70**		**6.45**		**2.97**		**10.3**		NA	NA	NA	**17.3**		NA	NA	NA	**24.9**		NA	NA
	Barium	mg/kg	1,000	NS	NS	**30.1**		**16.6**		**51.3**		**18.2**		**18.4**		NA	NA	NA	**27.2**		NA	NA	NA	**16.8**		NA	NA
	Beryllium	mg/kg	90	NS	NS	NA		NA		**0.366**		NA		0.210	U	NA	NA	NA	0.210	U	NA	NA	NA	0.198	U	NA	NA
	Cadmium	mg/kg	70	30	80	**1.20**		**0.598**		**0.555**		**0.537**		0.421	U	NA	NA	NA	**0.822**		NA	NA	NA	0.397	U	NA	NA
	Chromium	mg/kg	100	1,000	1,000	**22.7**		**9.97**		**24.8**		**11.1**		**10.1**		NA	NA	NA	**13.6**		NA	NA	NA	**8.27**		NA	NA
	Lead	mg/kg	200	1,000	2,000	**144**		**71.0**		**359**		**46.4**		**24.8**		NA	NA	NA	**56.6**		NA	NA	NA	**21.6**		NA	NA
	Mercury	mg/kg	20	10	10	0.082	U	0.082	U	**0.175**		**0.140**		NA		NA	NA	NA	NA		NA	NA	NA	NA		NA	NA
	Nickel	mg/kg	600	NS	NS	NA		NA		**16.2**		NA		**7.53**		NA	NA	NA	**11.0**		NA	NA	NA	**6.64**		NA	NA
	Selenium	mg/kg	400	NS	NS	2.12	U	2.28	U	2.20	U	2.02	U	2.10	U	NA	NA	NA	2.10	U	NA	NA	NA	1.98	U	NA	NA
	Silver	mg/kg	100	NS	NS	0.425	U	0.457	U	0.440	U	0.404	U	0.421	U	NA	NA	NA	0.420	U	NA	NA	NA	0.397	U	NA	NA
	Thallium	mg/kg	8	NS	NS	NA		NA		2.20	U	NA		2.10	U	NA	NA	NA	2.10	U	NA	NA	NA	1.98	U	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-409	GLX-TPW-410	GLX-TPW-411	GLX-TPW-412	GLX-TPW-601				GLX-TPW-602				GLX-TPW-603		
						Sample Depth^:	0-3/1.5-2 ft	0-5/1 ft	0-4/2-2.5 ft	0-2/1-2 ft	0-8 ft	0-2/2 ft	2-5/3 ft	5-8/6 ft	0-8 ft	0-2/2 ft	2-5/4.5 ft	5-8/6.5 ft	0-5 ft	0-2/1.5 ft	2-5/3 ft
						Sample Date:	03/16/2020	02/26/2020	03/27/2020	03/01/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																
	Vanadium	mg/kg	400	NS	NS		NA	NA	**24.4**	NA	**8.97**	NA	NA	NA	**15.8**	NA	NA	NA	**8.10**	NA	NA
	Zinc	mg/kg	1,000	NS	NS		NA	NA	**155**	NA	**99.2**	NA	NA	NA	**136**	NA	NA	NA	**25.3**	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**	Sample Location:	GLX-TPW-409		GLX-TPW-410		GLX-TPW-411		GLX-TPW-412		GLX-TPW-601				GLX-TPW-602				GLX-TPW-603		
						Sample Depth^:	0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft	0-2/2 ft	2-5/3 ft	5-8/6 ft	0-8 ft	0-2/2 ft	2-5/4.5 ft	5-8/6.5 ft	0-5 ft	0-2/1.5 ft	2-5/3 ft
						Sample Date:	03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019
Metals, TCLP																									
	Lead	mg/L	5*	NS	NS		0.500	U	NA		**1.09**		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																									
	Ignitability	none	NS	NS	NS		NI		NI		NI		NI		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Specific conductance	umhos/cm	NS	4,000	8,000		**120**		**220**		**79**		**300**		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	pH	su	NS	>2 <12.5	>2 <12.5		**9.0**		**8.1**		**8.4**		**9.1**		NA	**7.1**	**6.7**	**6.9**	NA	**7.6**	**7.6**	**6.9**	NA	**7.8**	**7.0**
	Reactive Cyanide	mg/kg	NS	< 250	< 250		10	U	10	U	10	U	10	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Reactive Sulfide	mg/kg	NS	< 500	< 500		10	U	10	U	10	U	10	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-603A	GLX-TPW-604			GLX-TPW-604A	GLX-TPW-605					GLX-TPW-605A	GLX-TPW-606		
						Sample Depth^:	0-5 ft	0-5 ft	0-2/1 ft	2-5/3 ft	0-5 ft	0-8 ft	0-2/1 ft	2-5/3 ft	3 ft	5-8/8 ft	0-8 ft	0-5 ft	0-2/1 ft	2-5/4 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**										Field Dup					
VOCs																				
	Methylene chloride	mg/kg	0.1	NS	NS	NA	NA	0.0034 U	0.0045 U	NA	NA	0.0041 U	0.0047 U	0.0050 U	0.0036 U	NA	NA	0.0040 U	0.0024 U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Chloroform	mg/kg	0.2	NS	NS	NA	NA	0.0010 U	0.0013 U	NA	NA	0.0012 U	0.0014 U	0.0015 U	0.0011 U	NA	NA	0.0012 U	0.00072 U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Tetrachloroethene	mg/kg	1	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Chlorobenzene	mg/kg	1	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Bromoform	mg/kg	0.1	NS	NS	NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Benzene	mg/kg	2	NS	NS	NA	NA	0.00034 U	**0.00061**	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Toluene	mg/kg	30	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Ethylbenzene	mg/kg	40	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Chloromethane	mg/kg	100	NS	NS	NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	Bromomethane	mg/kg	0.5	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Chloroethane	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA	NA	0.0010 U	0.0013 U	NA	NA	0.0012 U	0.0014 U	0.0015 U	0.0011 U	NA	NA	0.0012 U	0.00072 U
	Trichloroethene	mg/kg	0.3	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	p/m-Xylene	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	o-Xylene	mg/kg	100	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Xylenes (Total)	mg/kg	100	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Dibromomethane	mg/kg	500	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Styrene	mg/kg	3	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	Acetone	mg/kg	6	NS	NS	NA	NA	**0.049**	**0.041**	NA	NA	**0.034**	**0.092**	**0.061**	0.018 U	NA	NA	**0.043**	**0.016**
	Carbon disulfide	mg/kg	100	NS	NS	NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	2-Butanone	mg/kg	4	NS	NS	NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	2-Hexanone	mg/kg	100	NS	NS	NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	Bromochloromethane	mg/kg	NS	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Bromobenzene	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	n-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA	NA	0.0020 U	0.0027 U	NA	NA	0.0024 U	0.0028 U	0.0030 U	0.0022 U	NA	NA	0.0024 U	0.0014 U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-603A		GLX-TPW-604				GLX-TPW-604A		GLX-TPW-605						GLX-TPW-605A		GLX-TPW-606		
						Sample Depth^:	0-5 ft		0-5 ft	0-2/1 ft		2-5/3 ft	0-5 ft		0-8 ft	0-2/1 ft		2-5/3 ft	3 ft		5-8/8 ft	0-8 ft	0-5 ft	0-2/1 ft		2-5/4 ft	
						Sample Date:	02/08/2020		10/20/2019	10/20/2019		10/20/2019	02/08/2020		10/20/2019	10/20/2019		10/20/2019	10/20/2019 Field Dup		10/20/2019	02/08/2020	11/02/2019	11/02/2019		11/02/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					
	Naphthalene	mg/kg	4	NS	NS		NA		NA	0.0027	U	0.0036	U	NA	NA	0.0032	U	0.0038	U	0.0040	U	0.0029	U	NA	NA	0.0032	U	0.0019	U
	n-Propylbenzene	mg/kg	100	NS	NS		NA		NA	0.00068	U	0.00089	U	NA	NA	0.00081	U	0.00094	U	0.0010	U	0.00072	U	NA	NA	0.00080	U	0.00048	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	Ethyl ether	mg/kg	100	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	Isopropyl Ether	mg/kg	100	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		NA		NA	0.0014	U	0.0018	U	NA	NA	0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA	NA	0.0016	U	0.00096	U
	1,4-Dioxane	mg/kg	0.2	NS	NS		NA		NA	0.054	U	0.072	U	NA	NA	0.065	U	0.075	U	0.08	U	0.057	U	NA	NA	0.064	U	0.038	U
	Total VOCs	mg/kg	N/A	4	10		*NA*		*NA*	***0.049***		***0.042***	*NA*		*NA*	***0.034***		***0.092***	***0.061***		*ND*	*NA*	*NA*	***0.043***		***0.016***	
SVOCs																											
	Acenaphthene	mg/kg	4	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA		**0.85**	NA	NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Azobenzene	mg/kg	NS	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Fluoranthene	mg/kg	1,000	NS	NS		0.1	U	NA	NA		NA	**0.19**		NA	NA		NA	NA		NA		**6.6**	NA	NA		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		0.18	U	NA	NA		NA	0.19	U	NA	NA		NA	NA		NA		0.2	U	NA	NA		NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Hexachloroethane	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	Isophorone	mg/kg	100	NS	NS		0.15	U	NA	NA		NA	0.16	U	NA	NA		NA	NA		NA		0.17	U	NA	NA		NA	
	Naphthalene	mg/kg	4	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		**0.56**	NA	NA		NA	
	Nitrobenzene	mg/kg	500	NS	NS		0.15	U	NA	NA		NA	0.16	U	NA	NA		NA	NA		NA		0.17	U	NA	NA		NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Diethyl phthalate	mg/kg	10	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS		0.1	U	NA	NA		NA	0.1	U	NA	NA		NA	NA		NA		**6.1**	NA	NA		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA		**7.7**	NA	NA		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		0.1	U	NA	NA		NA	**0.16**		NA	NA		NA	NA		NA		**12**	NA	NA		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		0.1	U	NA	NA		NA	0.1	U	NA	NA		NA	NA		NA		**3.7**	NA	NA		NA	
	Chrysene	mg/kg	70	NS	NS		0.1	U	NA	NA		NA	**0.12**		NA	NA		NA	NA		NA		**11**	NA	NA		NA	
	Acenaphthylene	mg/kg	1	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA		**0.35**	NA	NA		NA	
	Anthracene	mg/kg	1,000	NS	NS		0.1	U	NA	NA		NA	0.1	U	NA	NA		NA	NA		NA		**1.8**	NA	NA		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA		**4.7**	NA	NA		NA	
	Fluorene	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		**0.86**	NA	NA		NA	
	Phenanthrene	mg/kg	10	NS	NS		0.1	U	NA	NA		NA	**0.14**		NA	NA		NA	NA		NA		**4.5**	NA	NA		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		**1.3**	NA	NA		NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA		**4.8**	NA	NA		NA	
	Pyrene	mg/kg	1,000	NS	NS		0.1	U	NA	NA		NA	**0.17**		NA	NA		NA	NA		NA		**6.6**	NA	NA		NA	
	Aniline	mg/kg	1,000	NS	NS		0.2	U	NA	NA		NA	0.21	U	NA	NA		NA	NA		NA		0.23	U	NA	NA		NA	
	4-Chloroaniline	mg/kg	1	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	Dibenzofuran	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		**0.47**	NA	NA		NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		**0.29**	NA	NA		NA	
	Acetophenone	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA		0.19	U	NA	NA		NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA		0.079	U	NA	NA		NA	
	2-Nitrophenol	mg/kg	100	NS	NS		0.37	U	NA	NA		NA	0.38	U	NA	NA		NA	NA		NA		0.41	U	NA	NA		NA	
	4-Nitrophenol	mg/kg	100	NS	NS		0.24	U	NA	NA		NA	0.25	U	NA	NA		NA	NA		NA		0.26	U	NA	NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-603A		GLX-TPW-604				GLX-TPW-604A		GLX-TPW-605						GLX-TPW-605A		GLX-TPW-606			
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft		2-5/3 ft		0-5 ft		0-8 ft		0-2/1 ft		2-5/3 ft		3 ft		5-8/8 ft		0-8 ft		0-5 ft		0-2/1 ft		2-5/4 ft	
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		11/02/2019		11/02/2019		11/02/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																	Field Dup											
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.82	U	NA		NA		NA		0.85	U	NA		NA		NA		NA		NA		0.9	U	NA		NA		NA	
	Pentachlorophenol	mg/kg	3	NS	NS	0.34	U	NA		NA		NA		0.35	U	NA		NA		NA		NA		NA		0.38	U	NA		NA		NA	
	Phenol	mg/kg	1	NS	NS	0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		0.19	U	NA		NA		NA	
	2-Methylphenol	mg/kg	500	NS	NS	0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		0.19	U	NA		NA		NA	
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.24	U	NA		NA		NA		0.25	U	NA		NA		NA		NA		NA		0.27	U	NA		NA		NA	
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		0.19	U	NA		NA		NA	
	Pyridine	mg/kg	500	NS	NS	0.18	U	NA		NA		NA		0.19	U	NA		NA		NA		NA		NA		0.2	U	NA		NA		NA	
	Total SVOCs	mg/kg	N/A	100	100	*ND*		*NA*		*NA*		*NA*		***0.780***		*NA*		*NA*		*NA*		*NA*		*NA*		***74.2***		*NA*		*NA*		*NA*	
Pesticides																																	
	Delta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Lindane	mg/kg	0.003	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Beta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Aldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endrin	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endrin ketone	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Methoxychlor	mg/kg	200	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Chlordane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Herbicides																																	
	MCPP	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	MCPA	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dalapon	mg/kg	1,000	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dicamba	mg/kg	500	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-D	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-DB	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4,5-T	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
PCB Aroclors																																	
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
	PCBs, Total	mg/kg	1	2	2	NA		0.035	U	NA		NA		NA		0.037	U	NA		NA		NA		NA		NA		0.0349	U	NA		NA	
TPH																																	
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	34	U	NA		NA		NA		**56.4**		NA		NA		NA		NA		NA		**390**		NA		NA		NA	
Metals, total																																	
	Antimony	mg/kg	20	NS	NS	NA		1.99	U	NA		NA		NA		2.14	U	NA		NA		NA		NA		NA		2.11	U	NA		NA	
	Arsenic	mg/kg	20	40	40	NA		**10.5**		NA		NA		NA		**6.98**		NA		NA		NA		NA		NA		**6.58**		NA		NA	
	Barium	mg/kg	1,000	NS	NS	NA		**28.7**		NA		NA		NA		**29.3**		NA		NA		NA		NA		NA		**35.6**		NA		NA	
	Beryllium	mg/kg	90	NS	NS	NA		0.199	U	NA		NA		NA		0.214	U	NA		NA		NA		NA		NA		0.211	U	NA		NA	
	Cadmium	mg/kg	70	30	80	NA		0.399	U	NA		NA		NA		0.428	U	NA		NA		NA		NA		NA		0.422	U	NA		NA	
	Chromium	mg/kg	100	1,000	1,000	NA		**15.0**		NA		NA		NA		**15.3**		NA		NA		NA		NA		NA		**15.2**		NA		NA	
	Lead	mg/kg	200	1,000	2,000	NA		**14.3**		NA		NA		NA		**15.4**		NA		NA		NA		NA		NA		**25.6**		NA		NA	
	Mercury	mg/kg	20	10	10	0.079	U	NA		NA		NA		0.074	U	NA		NA		NA		NA		NA		**0.088**		NA		NA		NA	
	Nickel	mg/kg	600	NS	NS	NA		**9.62**		NA		NA		NA		**9.41**		NA		NA		NA		NA		NA		**11.2**		NA		NA	
	Selenium	mg/kg	400	NS	NS	NA		1.99	U	NA		NA		NA		2.14	U	NA		NA		NA		NA		NA		2.11	U	NA		NA	
	Silver	mg/kg	100	NS	NS	NA		0.399	U	NA		NA		NA		0.428	U	NA		NA		NA		NA		NA		0.422	U	NA		NA	
	Thallium	mg/kg	8	NS	NS	NA		1.99	U	NA		NA		NA		2.14	U	NA		NA		NA		NA		NA		2.11	U	NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	**GLX-TPW-603A**	**GLX-TPW-604**			**GLX-TPW-604A**	**GLX-TPW-605**					**GLX-TPW-605A**	**GLX-TPW-606**		
						Sample Depth^:	0-5 ft	0-5 ft	0-2/1 ft	2-5/3 ft	0-5 ft	0-8 ft	0-2/1 ft	2-5/3 ft	3 ft	5-8/8 ft	0-8 ft	0-5 ft	0-2/1 ft	2-5/4 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**										Field Dup					
	Vanadium	mg/kg	400	NS	NS		NA	**12.0**	NA	NA	NA	**14.2**	NA	NA	NA	NA	NA	**17.5**	NA	NA
	Zinc	mg/kg	1,000	NS	NS		NA	**33.3**	NA	NA	NA	**38.5**	NA	NA	NA	NA	NA	**35.5**	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-603A**		**GLX-TPW-604**						**GLX-TPW-604A**		**GLX-TPW-605**									**GLX-TPW-605A**		**GLX-TPW-606**									
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft		2-5/3 ft		0-5 ft		0-8 ft		0-2/1 ft		2-5/3 ft		3 ft		5-8/8 ft		0-8 ft		0-5 ft		0-2/1 ft		2-5/4 ft			
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		11/02/2019		11/02/2019		11/02/2019			
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																	Field Dup													
Metals, TCLP																																			
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
General Chemistry																																			
	Ignitability	none	NS	NS	NS	NI		NA		NA		NA		NI		NA		NA		NA		NA		NA		NI		NA		NA		NA			
	Specific conductance	umhos/cm	NS	4,000	8,000	**13**		NA		NA		NA		**11**		NA		NA		NA		NA		NA		**13**		NA		NA		NA			
	pH	su	NS	>2 <12.5	>2 <12.5	**7.7**		NA		**7.5**		**6.8**		**6.9**		NA		**7.5**		**6.6**		NA		**5.5**		**7.2**		NA		**6.8**		**6.4**			
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	NA		NA		NA		10	U	NA		NA		NA		NA		NA		10	U	NA		NA		NA			
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	NA		NA		NA		10	U	NA		NA		NA		NA		NA		10	U	NA		NA		NA			

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-606A	GLX-TPW-607			GLX-TPW-607A		GLX-TPW-608			GLX-TPW-608A	GLX-TPW-609			GLX-TPW-609A
						Sample Depth^:	0-5 ft	0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020 Field Dup	11/02/2019	11/02/2019	11/02/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**															
VOCs																				
	Methylene chloride	mg/kg	0.1	NS	NS	NA	NA	0.0038 U	0.0039 U	NA	NA	NA	0.0035 U	0.0047 U	NA	NA	0.0034 U	0.0032 U	NA
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Chloroform	mg/kg	0.2	NS	NS	NA	NA	0.0011 U	0.0012 U	NA	NA	NA	0.0011 U	0.0014 U	NA	NA	0.001 U	0.00096 U	NA
	Carbon tetrachloride	mg/kg	5	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Tetrachloroethene	mg/kg	1	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Chlorobenzene	mg/kg	1	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Bromoform	mg/kg	0.1	NS	NS	NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Benzene	mg/kg	2	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Toluene	mg/kg	30	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Ethylbenzene	mg/kg	40	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Chloromethane	mg/kg	100	NS	NS	NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	Bromomethane	mg/kg	0.5	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Vinyl chloride	mg/kg	0.7	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Chloroethane	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA	NA	0.0011 U	0.0012 U	NA	NA	NA	0.0011 U	0.0014 U	NA	NA	0.001 U	0.00096 U	NA
	Trichloroethene	mg/kg	0.3	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	p/m-Xylene	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	o-Xylene	mg/kg	100	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Xylenes (Total)	mg/kg	100	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Dibromomethane	mg/kg	500	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Styrene	mg/kg	3	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	Acetone	mg/kg	6	NS	NS	NA	NA	**0.066**	**0.03**	NA	NA	NA	**0.02**	**0.053**	NA	NA	**0.07**	**0.092**	NA
	Carbon disulfide	mg/kg	100	NS	NS	NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	2-Butanone	mg/kg	4	NS	NS	NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	2-Hexanone	mg/kg	100	NS	NS	NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	Bromochloromethane	mg/kg	NS	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Tetrahydrofuran	mg/kg	500	NS	NS	NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Bromobenzene	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	n-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	sec-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	tert-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	o-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	p-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA	NA	0.0022 U	0.0024 U	NA	NA	NA	0.0021 U	0.0028 U	NA	NA	0.0021 U	0.0019 U	NA
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-606A		GLX-TPW-607			GLX-TPW-607A			GLX-TPW-608			GLX-TPW-608A	GLX-TPW-609			GLX-TPW-609A
						Sample Depth^:	0-5 ft		0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft		0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft
						Sample Date:	02/08/2020		10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020		11/02/2019	11/02/2019	11/02/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**								Field Dup									
	Naphthalene	mg/kg	4	NS	NS		NA		NA	0.0030 U	0.0031 U	NA	NA		NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	n-Propylbenzene	mg/kg	100	NS	NS		NA		NA	0.00075 U	0.00078 U	NA	NA		NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Ethyl ether	mg/kg	100	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Isopropyl Ether	mg/kg	100	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,4-Dioxane	mg/kg	0.2	NS	NS		NA		NA	0.06 U	0.063 U	NA	NA		NA	0.057 U	0.075 U	NA	NA	0.055 U	0.051 U	NA
	Total VOCs	mg/kg	N/A	4	10		*NA*		*NA*	***0.066***	***0.030***	*NA*	*NA*		*NA*	***0.020***	***0.053***	*NA*	*NA*	***0.070***	***0.092***	*NA*
SVOCs																						
	Acenaphthene	mg/kg	4	NS	NS		**0.2**		NA	NA	NA	0.15 U	0.15 U		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Azobenzene	mg/kg	NS	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Fluoranthene	mg/kg	1,000	NS	NS		**1.7**		NA	NA	NA	**29**	**86**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		0.19 U		NA	NA	NA	0.21 U	0.2 U		NA	NA	NA	0.19 U	NA	NA	NA	0.19 U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Hexachloroethane	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Isophorone	mg/kg	100	NS	NS		0.16 U		NA	NA	NA	0.17 U	0.17 U		NA	NA	NA	0.16 U	NA	NA	NA	0.16 U
	Naphthalene	mg/kg	4	NS	NS		**0.33**		NA	NA	NA	**0.3**	**0.92**		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Nitrobenzene	mg/kg	500	NS	NS		0.16 U		NA	NA	NA	0.17 U	0.17 U		NA	NA	NA	0.16 U	NA	NA	NA	0.16 U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Diethyl phthalate	mg/kg	10	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Benzo(a)anthracene	mg/kg	7	NS	NS		**0.64**		NA	NA	NA	**16**	**48**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Benzo(a)pyrene	mg/kg	2	NS	NS		**0.64**		NA	NA	NA	**16**	**44**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		**0.72**		NA	NA	NA	**17**	**50**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		**0.25**		NA	NA	NA	**4.9**	**16**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Chrysene	mg/kg	70	NS	NS		**0.57**		NA	NA	NA	**12**	**37**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Acenaphthylene	mg/kg	1	NS	NS		0.14 U		NA	NA	NA	**0.84**	**2.7**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Anthracene	mg/kg	1,000	NS	NS		**0.45**		NA	NA	NA	**2.2**	**9.7**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		**0.33**		NA	NA	NA	**6.1**	**20**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Fluorene	mg/kg	1,000	NS	NS		**0.23**		NA	NA	NA	0.19 U	**0.61**		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Phenanthrene	mg/kg	10	NS	NS		**1.9**		NA	NA	NA	**1.8**	**6.5**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		**0.074**		NA	NA	NA	**1.9**	**5.3**		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		**0.38**		NA	NA	NA	**7.7**	**23**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Pyrene	mg/kg	1,000	NS	NS		**1.4**		NA	NA	NA	**24**	**73**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Aniline	mg/kg	1,000	NS	NS		0.21 U		NA	NA	NA	0.23 U	0.22 U		NA	NA	NA	0.21 U	NA	NA	NA	0.21 U
	4-Chloroaniline	mg/kg	1	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Dibenzofuran	mg/kg	100	NS	NS		**0.24**		NA	NA	NA	0.19 U	**0.23**		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		**0.16**		NA	NA	NA	0.08 U	**0.21**		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Acetophenone	mg/kg	1,000	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2-Nitrophenol	mg/kg	100	NS	NS		0.38 U		NA	NA	NA	0.41 U	0.4 U		NA	NA	NA	0.39 U	NA	NA	NA	0.39 U
	4-Nitrophenol	mg/kg	100	NS	NS		0.25 U		NA	NA	NA	0.27 U	0.26 U		NA	NA	NA	0.25 U	NA	NA	NA	0.25 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-606A		GLX-TPW-607			GLX-TPW-607A				GLX-TPW-608			GLX-TPW-608A		GLX-TPW-609			GLX-TPW-609A	
		Sample Depth^:				0-5 ft		0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft			0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft		0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	
		Sample Date:				02/08/2020		10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020			11/02/2019	11/02/2019	11/02/2019	02/08/2020		11/02/2019	11/02/2019	11/02/2019	02/08/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**							Field Dup												
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.85	U	NA	NA	NA	0.92	U	0.89	U	NA	NA	NA	0.86	U	NA	NA	NA	0.86	U
	Pentachlorophenol	mg/kg	3	NS	NS	0.36	U	NA	NA	NA	0.38	U	0.37	U	NA	NA	NA	0.36	U	NA	NA	NA	0.36	U
	Phenol	mg/kg	1	NS	NS	0.18	U	NA	NA	NA	**0.21**		**0.5**		NA	NA	NA	0.18	U	NA	NA	NA	0.18	U
	2-Methylphenol	mg/kg	500	NS	NS	0.18	U	NA	NA	NA	0.19	U	0.18	U	NA	NA	NA	0.18	U	NA	NA	NA	0.18	U
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.26	U	NA	NA	NA	0.28	U	**0.33**		NA	NA	NA	0.26	U	NA	NA	NA	0.26	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.18	U	NA	NA	NA	0.19	U	0.18	U	NA	NA	NA	0.18	U	NA	NA	NA	0.18	U
	Pyridine	mg/kg	500	NS	NS	0.19	U	NA	NA	NA	0.21	U	0.2	U	NA	NA	NA	0.19	U	NA	NA	NA	0.19	U
	Total SVOCs	mg/kg	N/A	100	100	***10.2***		*NA*	*NA*	*NA*	***140***		***424***		*NA*	*NA*	*NA*	*ND*		*NA*	*NA*	*NA*	*ND*	
Pesticides																								
	Delta-BHC	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Lindane	mg/kg	0.003	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Beta-BHC	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Aldrin	mg/kg	0.08	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Endrin	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Endrin ketone	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Methoxychlor	mg/kg	200	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Chlordane	mg/kg	0.7	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
Herbicides																								
	MCPP	mg/kg	NS	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	MCPA	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Dalapon	mg/kg	1,000	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Dicamba	mg/kg	500	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	2,4-D	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	2,4-DB	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	2,4,5-T	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA		NA	NA	NA	NA	
PCB Aroclors																								
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
	PCBs, Total	mg/kg	1	2	2	NA		0.035	U NA	NA	NA		NA		0.0362	U	NA	NA	NA	0.0351	U	NA	NA	NA	
TPH																								
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	**52.7**		NA	NA	NA	**341**		**548**		NA	NA	NA	34.7	U	NA	NA	NA	35.9	U
Metals, total																								
	Antimony	mg/kg	20	NS	NS	NA		2.09	U NA	NA	NA		NA		2.18	U	NA	NA	NA	2.08	U	NA	NA	NA	
	Arsenic	mg/kg	20	40	40	NA		**8.05**	NA	NA	NA		NA		**4.94**		NA	NA	NA	**5.05**		NA	NA	NA	
	Barium	mg/kg	1,000	NS	NS	NA		**23.7**	NA	NA	NA		NA		**17.0**		NA	NA	NA	**23.3**		NA	NA	NA	
	Beryllium	mg/kg	90	NS	NS	NA		0.209	U NA	NA	NA		NA		0.218	U	NA	NA	NA	0.208	U	NA	NA	NA	
	Cadmium	mg/kg	70	30	80	NA		0.418	U NA	NA	NA		NA		0.435	U	NA	NA	NA	**0.429**		NA	NA	NA	
	Chromium	mg/kg	100	1,000	1,000	NA		**11.8**	NA	NA	NA		NA		**10.6**		NA	NA	NA	**15.3**		NA	NA	NA	
	Lead	mg/kg	200	1,000	2,000	NA		**38.0**	NA	NA	NA		NA		**7.93**		NA	NA	NA	**34.1**		NA	NA	NA	
	Mercury	mg/kg	20	10	10	**0.127**		NA	NA	NA	0.079	U	0.091	U	NA	NA	NA	0.079	U	NA	NA	NA	0.077	U
	Nickel	mg/kg	600	NS	NS	NA		**9.83**	NA	NA	NA		NA		**6.78**		NA	NA	NA	**9.54**		NA	NA	NA	
	Selenium	mg/kg	400	NS	NS	NA		2.09	U NA	NA	NA		NA		2.18	U	NA	NA	NA	2.08	U	NA	NA	NA	
	Silver	mg/kg	100	NS	NS	NA		0.418	U NA	NA	NA		NA		0.435	U	NA	NA	NA	0.416	U	NA	NA	NA	
	Thallium	mg/kg	8	NS	NS	NA		2.09	U NA	NA	NA		NA		2.18	U	NA	NA	NA	2.08	U	NA	NA	NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-606A	GLX-TPW-607			GLX-TPW-607A		GLX-TPW-608			GLX-TPW-608A	GLX-TPW-609			GLX-TPW-609A
						Sample Depth^:	0-5 ft	0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**							Field Dup								
	Vanadium	mg/kg	400	NS	NS		NA	**21.9**	NA	NA	NA	NA	**12.4**	NA	NA	NA	**20.3**	NA	NA	NA
	Zinc	mg/kg	1,000	NS	NS		NA	**99.7**	NA	NA	NA	NA	**26.9**	NA	NA	NA	**40.6**	NA	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-606A**		**GLX-TPW-607**				**GLX-TPW-607A**				**GLX-TPW-608**				**GLX-TPW-608A**		**GLX-TPW-609**				**GLX-TPW-609A**	
		Sample Depth^:				0-5 ft		0-5 ft		0-2/0.6 ft		2-5/4.6 ft		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		0-5 ft	
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		02/08/2020		11/02/2019		11/02/2019		11/02/2019		02/08/2020		11/02/2019		11/02/2019		11/02/2019		02/08/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**											Field Dup															
Metals, TCLP																															
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry																															
	Ignitability	none	NS	NS	NS	NI		NA		NA		NA		NI		NI		NA		NA		NI		NA		NA		NA		NI	
	Specific conductance	umhos/cm	NS	4,000	8,000	**10**		NA		NA		NA		**12**		**13**		NA		NA		10	U	NA		NA		NA		10	U
	pH	su	NS	>2 <12.5	>2 <12.5	**7.6**		NA		**7.8**		**6.9**		**6.8**		**7.2**		NA		**7.0**		**6.3**		**7.5**		NA		**7.2**		**7.1**		**7.5**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	NA		NA		NA		10	U	10	U	NA		NA		NA		10	U	NA		NA		NA		10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	NA		NA		NA		10	U	10	U	NA		NA		NA		10	U	NA		NA		NA		10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-610				GLX-TPW-610A	GLX-TPW-611			GLX-TPW-611A	GLX-TPW-612			GLX-TPW-612A	GLX-TPW-613		
		Sample Depth^:				0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft
		Sample Date:				11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																
VOCs																					
	Methylene chloride	mg/kg	0.1	NS	NS	NA	0.0038 U	0.0024 U	0.0030 U	NA	NA	0.0049 U	0.0037 U	NA	NA	0.0042 U	0.0038 U	NA	NA	0.0034 U	0.0049 U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Chloroform	mg/kg	0.2	NS	NS	NA	0.0011 U	0.00071 U	0.00091 U	NA	NA	0.0015 U	0.0011 U	NA	NA	0.0013 U	0.0011 U	NA	NA	0.0010 U	0.0015 U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Tetrachloroethene	mg/kg	1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Chlorobenzene	mg/kg	1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Bromoform	mg/kg	0.1	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Benzene	mg/kg	2	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Toluene	mg/kg	30	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Ethylbenzene	mg/kg	40	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Chloromethane	mg/kg	100	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	Bromomethane	mg/kg	0.5	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Chloroethane	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA	0.0011 U	0.00071 U	0.00091 U	NA	NA	0.0015 U	0.0011 U	NA	NA	0.0013 U	0.0011 U	NA	NA	0.0010 U	0.0015 U
	Trichloroethene	mg/kg	0.3	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	p/m-Xylene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	o-Xylene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Xylenes (Total)	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Dibromomethane	mg/kg	500	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Styrene	mg/kg	3	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	Acetone	mg/kg	6	NS	NS	NA	**0.18**	**0.018**	**0.035**	NA	NA	**0.091**	**0.028**	NA	NA	**0.08**	**0.059**	NA	NA	**0.028**	**0.032**
	Carbon disulfide	mg/kg	100	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	2-Butanone	mg/kg	4	NS	NS	NA	**0.018**	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	2-Hexanone	mg/kg	100	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	Bromochloromethane	mg/kg	NS	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	**0.0039**	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Bromobenzene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	n-Butylbenzene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA	0.0023 U	0.0014 U	0.0018 U	NA	NA	0.0029 U	0.0022 U	NA	NA	0.0025 U	0.0023 U	NA	NA	0.0020 U	0.0029 U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-610								GLX-TPW-610A		GLX-TPW-611								GLX-TPW-611A		GLX-TPW-612								GLX-TPW-612A		GLX-TPW-613					
		Sample Depth^:				0-8 ft		0-2/1 ft		2-5/3 ft		5-8/7 ft		0-5 ft		0-5 ft		0-2/1.5 ft		2-5/4 ft		0-5 ft		0-5 ft		0-2/1.5 ft		2-5/4 ft		0-5 ft		0-5 ft		0-2/1.5 ft		2-5/4 ft	
		Sample Date:				11/02/2019		11/02/2019		11/02/2019		11/02/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																																
	Naphthalene	mg/kg	4	NS	NS	NA		0.003	U	0.0019	U	0.0024	U	NA		NA		0.0039	U	0.0030	U	NA		NA		0.0034	U	0.0030	U	NA		NA		0.0027	U	0.0039	U
	n-Propylbenzene	mg/kg	100	NS	NS	NA		0.00076	U	0.00048	U	0.00061	U	NA		NA		0.00098	U	0.00074	U	NA		NA		0.00084	U	0.00076	U	NA		NA		0.00068	U	0.00098	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	Ethyl ether	mg/kg	100	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	Isopropyl Ether	mg/kg	100	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U	NA		NA		0.0017	U	0.0015	U	NA		NA		0.0014	U	0.0020	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	NA		0.061	U	0.038	U	0.049	U	NA		NA		0.078	U	0.06	U	NA		NA		0.067	U	0.06	U	NA		NA		0.054	U	0.078	U
	Total VOCs	mg/kg	N/A	4	10	*NA*		***0.198***		***0.018***		***0.035***		*NA*		*NA*		***0.095***		***0.028***		*NA*		*NA*		***0.080***		***0.059***		*NA*		*NA*		***0.028***		***0.032***	
SVOCs																																					
	Acenaphthene	mg/kg	4	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Azobenzene	mg/kg	NS	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Fluoranthene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		**0.14**		NA		NA		NA		0.11	U	NA		NA		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	NA		NA		NA		NA		0.19	U	NA		NA		NA		0.19	U	NA		NA		NA		0.19	U	NA		NA		NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Hexachloroethane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	Isophorone	mg/kg	100	NS	NS	NA		NA		NA		NA		0.16	U	NA		NA		NA		0.16	U	NA		NA		NA		0.16	U	NA		NA		NA	
	Naphthalene	mg/kg	4	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Nitrobenzene	mg/kg	500	NS	NS	NA		NA		NA		NA		0.16	U	NA		NA		NA		0.16	U	NA		NA		NA		0.16	U	NA		NA		NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Diethyl phthalate	mg/kg	10	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		0.11	U	NA		NA		NA		0.11	U	NA		NA		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		0.11	U	NA		NA		NA		0.11	U	NA		NA		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		0.11	U	NA		NA		NA		0.11	U	NA		NA		NA	
	Chrysene	mg/kg	70	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		0.11	U	NA		NA		NA		0.11	U	NA		NA		NA	
	Acenaphthylene	mg/kg	1	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA	
	Anthracene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		0.11	U	NA		NA		NA		0.11	U	NA		NA		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA	
	Fluorene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Phenanthrene	mg/kg	10	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		0.11	U	NA		NA		NA		0.11	U	NA		NA		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA		0.14	U	NA		NA		NA	
	Pyrene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA		**0.11**		NA		NA		NA		0.11	U	NA		NA		NA	
	Aniline	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.21	U	NA		NA		NA		0.21	U	NA		NA		NA		0.21	U	NA		NA		NA	
	4-Chloroaniline	mg/kg	1	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	Dibenzofuran	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	Acetophenone	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U	NA		NA		NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA		0.074	U	NA		NA		NA		0.075	U	NA		NA		NA	
	2-Nitrophenol	mg/kg	100	NS	NS	NA		NA		NA		NA		0.38	U	NA		NA		NA		0.38	U	NA		NA		NA		0.38	U	NA		NA		NA	
	4-Nitrophenol	mg/kg	100	NS	NS	NA		NA		NA		NA		0.24	U	NA		NA		NA		0.25	U	NA		NA		NA		0.25	U	NA		NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-610				GLX-TPW-610A		GLX-TPW-611				GLX-TPW-611A		GLX-TPW-612				GLX-TPW-612A		GLX-TPW-613		
		Sample Depth^:				0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft
		Sample Date:				11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					
	2,4-Dinitrophenol	mg/kg	3	NS	NS	NA	NA	NA	NA	0.84	U	NA	NA	NA		0.85	U	NA	NA	NA		0.85	U	NA	NA	NA
	Pentachlorophenol	mg/kg	3	NS	NS	NA	NA	NA	NA	0.35	U	NA	NA	NA		0.35	U	NA	NA	NA		0.36	U	NA	NA	NA
	Phenol	mg/kg	1	NS	NS	NA	NA	NA	NA	0.17	U	NA	NA	NA		0.18	U	NA	NA	NA		0.18	U	NA	NA	NA
	2-Methylphenol	mg/kg	500	NS	NS	NA	NA	NA	NA	0.17	U	NA	NA	NA		0.18	U	NA	NA	NA		0.18	U	NA	NA	NA
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	NA	NA	NA	NA	0.25	U	NA	NA	NA		0.26	U	NA	NA	NA		0.26	U	NA	NA	NA
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	NA	NA	NA	NA	0.17	U	NA	NA	NA		0.18	U	NA	NA	NA		0.18	U	NA	NA	NA
	Pyridine	mg/kg	500	NS	NS	NA	NA	NA	NA	0.19	U	NA	NA	NA		0.19	U	NA	NA	NA		0.19	U	NA	NA	NA
	Total SVOCs	mg/kg	N/A	100	100	*NA*	*NA*	*NA*	*NA*	*ND*		*NA*	*NA*	*NA*		***0.250***		*NA*	*NA*	*NA*		*ND*		*NA*	*NA*	*NA*
Pesticides																										
	Delta-BHC	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Lindane	mg/kg	0.003	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Alpha-BHC	mg/kg	50	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Beta-BHC	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Heptachlor	mg/kg	0.3	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Aldrin	mg/kg	0.08	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Endrin	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Endrin ketone	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Dieldrin	mg/kg	0.08	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	4,4'-DDE	mg/kg	6	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	4,4'-DDD	mg/kg	8	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	4,4'-DDT	mg/kg	6	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Endosulfan I	mg/kg	0.5	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Endosulfan II	mg/kg	0.5	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Methoxychlor	mg/kg	200	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Chlordane	mg/kg	0.7	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
Herbicides																										
	MCPP	mg/kg	NS	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	MCPA	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Dalapon	mg/kg	1,000	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Dicamba	mg/kg	500	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	Dichloroprop	mg/kg	NS	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	2,4-D	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	2,4-DB	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	2,4,5-T	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA
PCB Aroclors																										
	Aroclor-1016	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1221	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1232	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1242	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1248	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1254	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1260	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1262	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	Aroclor-1268	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
	PCBs, Total	mg/kg	1	2	2	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA
TPH																										
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	NA		NA	NA	NA		34.1	U	NA	NA			35.1	U	NA		NA	NA		35.3	U	NA	NA		NA
Metals, total																										
	Antimony	mg/kg	20	NS	NS	2.12	U	NA	NA	NA		NA	2.17	U	NA	NA		2.07	U	NA	NA	NA		2.15	U	NA
	Arsenic	mg/kg	20	40	40	**3.85**		NA	NA	NA		NA	**3.56**		NA	NA		**2.90**		NA	NA	NA		**2.18**		NA
	Barium	mg/kg	1,000	NS	NS	**20.4**		NA	NA	NA		NA	**29.6**		NA	NA		**14.8**		NA	NA	NA		**25.6**		NA
	Beryllium	mg/kg	90	NS	NS	0.212	U	NA	NA	NA		NA	0.217	U	NA	NA		0.207	U	NA	NA	NA		0.215	U	NA
	Cadmium	mg/kg	70	30	80	0.425	U	NA	NA	NA		NA	0.433	U	NA	NA		0.414	U	NA	NA	NA		0.431	U	NA
	Chromium	mg/kg	100	1,000	1,000	**12.7**		NA	NA	NA		NA	**11.3**		NA	NA		**16.6**		NA	NA	NA		**13.8**		NA
	Lead	mg/kg	200	1,000	2,000	**17.9**		NA	NA	NA		NA	**58.6**		NA	NA		**8.80**		NA	NA	NA		**9.52**		NA
	Mercury	mg/kg	20	10	10	NA		NA	NA	NA		0.078	U	NA	NA			0.078	U	NA		NA	NA		0.079	U	NA	NA		NA
	Nickel	mg/kg	600	NS	NS	**7.43**		NA	NA	NA		NA	**9.82**		NA	NA		**9.84**		NA	NA	NA		**10.0**		NA
	Selenium	mg/kg	400	NS	NS	2.12	U	NA	NA	NA		NA	2.17	U	NA	NA		2.07	U	NA	NA	NA		2.15	U	NA
	Silver	mg/kg	100	NS	NS	0.425	U	NA	NA	NA		NA	0.433	U	NA	NA		0.414	U	NA	NA	NA		0.431	U	NA
	Thallium	mg/kg	8	NS	NS	2.12	U	NA	NA	NA		NA	2.17	U	NA	NA		2.07	U	NA	NA	NA		2.15	U	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-610**				**GLX-TPW-610A**	**GLX-TPW-611**			**GLX-TPW-611A**	**GLX-TPW-612**			**GLX-TPW-612A**	**GLX-TPW-613**				
		Sample Depth^:				0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft		
		Sample Date:				11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019		
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																		
	Vanadium	mg/kg	400	NS	NS	**20.5**	NA	NA	NA	NA	NA	**23.6**	NA	NA	**21.1**	NA	NA	NA	NA	**20.5**	NA		
	Zinc	mg/kg	1,000	NS	NS	**35.6**	NA	NA	NA	NA	NA	**51.7**	NA	NA	**36.1**	NA	NA	NA	NA	**45.8**	NA		

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:		GLX-TPW-610				GLX-TPW-610A		GLX-TPW-611				GLX-TPW-611A		GLX-TPW-612				GLX-TPW-612A		GLX-TPW-613			
		Sample Depth^:		0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft	
		Sample Date:		11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																				
Metals, TCLP																									
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry																									
	Ignitability	none	NS	NS	NS	NA		NA		NA		NA		NI		NA		NA		NI		NA		NA	
	Specific conductance	umhos/cm	NS	4,000	8,000	NA		NA		NA		NA		10	U	NA		NA		10	U	NA		NA	
	pH	su	NS	>2 <12.5	>2 <12.5	NA		**7.2**		**7.5**		**6.3**		**7.3**		NA		**7.0**		**6.5**		**6.5**		**4.0**		**6.6**		**7.3**		NA		**7.1**		**6.1**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	NA		NA		NA		NA		10	U	NA		NA		NA		10	U	NA		NA	
	Reactive Sulfide	mg/kg	NS	< 500	< 500	NA		NA		NA		NA		10	U	NA		NA		NA		10	U	NA		NA	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						GLX-TPW-613A	GLX-TPW-614				GLX-TPW-614A	GLX-TPW-615						WASH-C15DS		WASH-NABUTDS	
		Sample Location:																			
		Sample Depth^:				0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	4 ft	0-5 ft	0-15 ft	1 ft	2-5/4 ft	5-8/7 ft	8-12/10 ft	12-15/13 ft	N/A	5 ft	N/A	3 ft
		Sample Date:				02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	03/19/2020	03/19/2020	03/20/2020	03/20/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**					Field Dup											
VOCs																					
	Methylene chloride	mg/kg	0.1	NS	NS	NA	NA	0.0043 U	0.0035 U	0.0039 U	NA	NA	0.0041 U	0.0033 U	0.0036 U	0.0037 U	0.0034 U	NA	0.0038 U	NA	0.0041 U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Chloroform	mg/kg	0.2	NS	NS	NA	NA	0.0013 U	0.0010 U	0.0012 U	NA	NA	0.0012 U	0.00099 U	0.0011 U	0.0011 U	0.0010 U	NA	0.0012 U	NA	0.0012 U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Tetrachloroethene	mg/kg	1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	**0.0033**	NA	**0.0062**
	Chlorobenzene	mg/kg	1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Bromoform	mg/kg	0.1	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Benzene	mg/kg	2	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Toluene	mg/kg	30	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Ethylbenzene	mg/kg	40	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Chloromethane	mg/kg	100	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	Bromomethane	mg/kg	0.5	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Chloroethane	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA	NA	0.0013 U	0.0010 U	0.0012 U	NA	NA	0.0012 U	0.00099 U	0.0011 U	0.0011 U	0.0010 U	NA	0.0012 U	NA	0.0012 U
	Trichloroethene	mg/kg	0.3	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	p/m-Xylene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	o-Xylene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Xylenes (Total)	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Dibromomethane	mg/kg	500	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Styrene	mg/kg	3	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	Acetone	mg/kg	6	NS	NS	NA	NA	**0.066**	0.017 U	**0.052**	NA	NA	0.02 U	0.016 U	**0.036**	**0.062**	**0.021**	NA	**0.13**	NA	**0.021**
	Carbon disulfide	mg/kg	100	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	2-Butanone	mg/kg	4	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	2-Hexanone	mg/kg	100	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	Bromochloromethane	mg/kg	NS	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Bromobenzene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	n-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA	NA	0.0026 U	0.0021 U	0.0023 U	NA	NA	0.0024 U	0.0020 U	0.0021 U	0.0022 U	0.0020 U	NA	0.0023 U	NA	0.0024 U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-613A		GLX-TPW-614						GLX-TPW-614A		GLX-TPW-615								WASH-C15DS				WASH-NABUTDS			
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		4 ft		0-5 ft		0-15 ft		1 ft		2-5/4 ft		5-8/7 ft		8-12/10 ft		12-15/13 ft		N/A		5 ft		N/A		3 ft	
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		03/19/2020		03/19/2020		03/20/2020		03/20/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**									Field Dup																			
	Naphthalene	mg/kg	4	NS	NS	NA		NA		0.0034	U	0.0028	U	0.0031	U	NA		NA		0.0033	U	0.0026	U	0.0028	U	0.0030	U	0.0027	U	NA		0.0031	U	NA		0.0033	U
	n-Propylbenzene	mg/kg	100	NS	NS	NA		NA		0.00085	U	0.00070	U	0.00078	U	NA		NA		0.00082	U	0.00066	U	0.00071	U	0.00075	U	0.00067	U	NA		0.00077	U	NA		0.00082	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	Ethyl ether	mg/kg	100	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	Isopropyl Ether	mg/kg	100	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NA		NA		0.0017	U	0.0014	U	0.0016	U	NA		NA		0.0016	U	0.0013	U	0.0014	U	0.0015	U	0.0013	U	NA		0.0015	U	NA		0.0016	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	NA		NA		0.068	U	0.056	U	0.062	U	NA		NA		0.065	U	0.053	U	0.057	U	0.06	U	0.054	U	NA		0.062	U	NA		0.065	U
	Total VOCs	mg/kg	N/A	4	10	*NA*		*NA*		***0.066***		*ND*		***0.052***		*NA*		*NA*		*ND*		*ND*		***0.036***		***0.062***		***0.021***		*NA*		***0.133***		*NA*		***0.0272***	
SVOCs																																					
	Acenaphthene	mg/kg	4	NS	NS	0.14	U	NA		NA		NA		NA		0.14	U	NA		NA		NA		NA		NA		NA		0.15	U	NA		0.15	U	NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Azobenzene	mg/kg	NS	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Fluoranthene	mg/kg	1,000	NS	NS	**0.14**		NA		NA		NA		NA		**0.12**		NA		NA		NA		NA		NA		NA		**0.53**		NA		**0.7**		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	0.19	U	NA		NA		NA		NA		0.19	U	NA		NA		NA		NA		NA		NA		0.2	U	NA		0.21	U	NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Hexachloroethane	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	Isophorone	mg/kg	100	NS	NS	0.16	U	NA		NA		NA		NA		0.16	U	NA		NA		NA		NA		NA		NA		0.16	U	NA		0.17	U	NA	
	Naphthalene	mg/kg	4	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Nitrobenzene	mg/kg	500	NS	NS	0.16	U	NA		NA		NA		NA		0.16	U	NA		NA		NA		NA		NA		NA		0.16	U	NA		0.17	U	NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Diethyl phthalate	mg/kg	10	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS	0.1	U	NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		**0.31**		NA		**0.42**		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS	0.14	U	NA		NA		NA		NA		0.14	U	NA		NA		NA		NA		NA		NA		**0.27**		NA		**0.45**		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	**0.11**		NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		**0.41**		NA		**0.71**		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	0.1	U	NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		**0.13**		NA		**0.19**		NA	
	Chrysene	mg/kg	70	NS	NS	0.1	U	NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		**0.36**		NA		**0.46**		NA	
	Acenaphthylene	mg/kg	1	NS	NS	0.14	U	NA		NA		NA		NA		0.14	U	NA		NA		NA		NA		NA		NA		0.15	U	NA		0.15	U	NA	
	Anthracene	mg/kg	1,000	NS	NS	0.1	U	NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		0.11	U	NA		**0.12**		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	0.14	U	NA		NA		NA		NA		0.14	U	NA		NA		NA		NA		NA		NA		**0.15**		NA		**0.24**		NA	
	Fluorene	mg/kg	1,000	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Phenanthrene	mg/kg	10	NS	NS	0.1	U	NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		**0.3**		NA		**0.31**		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	0.14	U	NA		NA		NA		NA		0.14	U	NA		NA		NA		NA		NA		NA		**0.17**		NA		**0.26**		NA	
	Pyrene	mg/kg	1,000	NS	NS	**0.12**		NA		NA		NA		NA		0.11	U	NA		NA		NA		NA		NA		NA		**0.49**		NA		**0.74**		NA	
	Aniline	mg/kg	1,000	NS	NS	0.21	U	NA		NA		NA		NA		0.21	U	NA		NA		NA		NA		NA		NA		0.22	U	NA		0.23	U	NA	
	4-Chloroaniline	mg/kg	1	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Dibenzofuran	mg/kg	100	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	Acetophenone	mg/kg	1,000	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	0.073	U	NA		NA		NA		NA		0.075	U	NA		NA		NA		NA		NA		NA		0.077	U	NA		0.081	U	NA	
	2-Nitrophenol	mg/kg	100	NS	NS	0.38	U	NA		NA		NA		NA		0.38	U	NA		NA		NA		NA		NA		NA		0.4	U	NA		0.41	U	NA	
	4-Nitrophenol	mg/kg	100	NS	NS	0.24	U	NA		NA		NA		NA		0.25	U	NA		NA		NA		NA		NA		NA		0.26	U	NA		0.27	U	NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-613A		GLX-TPW-614								GLX-TPW-614A		GLX-TPW-615										WASH-C15DS				WASH-NABUTDS			
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		4 ft		0-5 ft		0-15 ft		1 ft		2-5/4 ft		5-8/7 ft		8-12/10 ft		12-15/13 ft		N/A		5 ft		N/A		3 ft	
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		03/19/2020		03/19/2020		03/20/2020		03/20/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**									Field Dup																					
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.84	U	NA		NA		NA		NA		0.86	U	NA		NA		NA		NA		NA		0.88	U	NA		0.92	U	NA	
	Pentachlorophenol	mg/kg	3	NS	NS	0.35	U	NA		NA		NA		NA		0.36	U	NA		NA		NA		NA		NA		0.37	U	NA		0.38	U	NA	
	Phenol	mg/kg	1	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	2-Methylphenol	mg/kg	500	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.25	U	NA		NA		NA		NA		0.26	U	NA		NA		NA		NA		NA		0.26	U	NA		0.28	U	NA	
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.17	U	NA		NA		NA		NA		0.18	U	NA		NA		NA		NA		NA		0.18	U	NA		0.19	U	NA	
	Pyridine	mg/kg	500	NS	NS	0.19	U	NA		NA		NA		NA		0.19	U	NA		NA		NA		NA		NA		0.2	U	NA		0.21	U	NA	
	Total SVOCs	mg/kg	N/A	100	100	***0.370***		*NA*		*NA*		*NA*		*NA*		***0.120***		*NA*		*NA*		*NA*		*NA*		*NA*		***3.12***		*NA*		***4.6***		*NA*	
Pesticides																																			
	Delta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	Lindane	mg/kg	0.003	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.000584	U	NA		0.000617	U	NA	
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.000730	U	NA		0.000771	U	NA	
	Beta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.000876	U	NA		0.000925	U	NA	
	Aldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00328	U	NA		0.00347	U	NA	
	Endrin	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.000730	U	NA		0.000771	U	NA	
	Endrin ketone	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00109	U	NA		0.00116	U	NA	
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		**0.00475**		NA		0.00347	U	NA	
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.000730	U	NA		0.000771	U	NA	
	Methoxychlor	mg/kg	200	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00328	U	NA		0.00347	U	NA	
	Chlordane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.0146	U	NA		0.0154	U	NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00175	U	NA		0.00185	U	NA	
Herbicides																																			
	MCPP	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		3.7	U	NA		3.8	U	NA	
	MCPA	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		3.7	U	NA		3.8	U	NA	
	Dalapon	mg/kg	1,000	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
	Dicamba	mg/kg	500	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
	2,4-D	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
	2,4-DB	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
	2,4,5-T	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.037	U	NA		0.038	U	NA	
PCB Aroclors																																			
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
	PCBs, Total	mg/kg	1	2	2	NA		0.034	U	NA		NA		NA		NA		0.035	U	NA		NA		NA		NA		0.0354	U	NA		0.0378	U	NA	
TPH																																			
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	35.2	U	NA		NA		NA		NA		36	U	NA		NA		NA		NA		NA		**65.9**		NA		**61.3**		NA	
Metals, total																																			
	Antimony	mg/kg	20	NS	NS	NA		2.03	U	NA		NA		NA		NA		2.01	U	NA		NA		NA		NA		NA		NA		2.18	U	NA	
	Arsenic	mg/kg	20	40	40	NA		**2.55**		NA		NA		NA		NA		**4.11**		NA		NA		NA		NA		**9.84**		NA		**6.61**		NA	
	Barium	mg/kg	1,000	NS	NS	NA		**23.4**		NA		NA		NA		NA		**16.7**		NA		NA		NA		NA		**35.2**		NA		**36.8**		NA	
	Beryllium	mg/kg	90	NS	NS	NA		0.203	U	NA		NA		NA		NA		0.201	U	NA		NA		NA		NA		NA		NA		**0.419**		NA	
	Cadmium	mg/kg	70	30	80	NA		0.406	U	NA		NA		NA		NA		0.403	U	NA		NA		NA		NA		0.436	U	NA		**0.493**		NA	
	Chromium	mg/kg	100	1,000	1,000	NA		**11.3**		NA		NA		NA		NA		**9.49**		NA		NA		NA		NA		**17.0**		NA		**15.5**		NA	
	Lead	mg/kg	200	1,000	2,000	NA		**8.80**		NA		NA		NA		NA		**63.3**		NA		NA		NA		NA		**37.3**		NA		**22.9**		NA	
	Mercury	mg/kg	20	10	10	0.077	U	NA		NA		NA		NA		0.079	U	NA		NA		NA		NA		NA		**0.191**		NA		0.086	U	NA	
	Nickel	mg/kg	600	NS	NS	NA		**9.11**		NA		NA		NA		NA		**6.44**		NA		NA		NA		NA		NA		NA		**15.1**		NA	
	Selenium	mg/kg	400	NS	NS	NA		2.03	U	NA		NA		NA		NA		2.01	U	NA		NA		NA		NA		2.18	U	NA		2.18	U	NA	
	Silver	mg/kg	100	NS	NS	NA		0.406	U	NA		NA		NA		NA		0.403	U	NA		NA		NA		NA		0.436	U	NA		0.436	U	NA	
	Thallium	mg/kg	8	NS	NS	NA		2.03	U	NA		NA		NA		NA		2.01	U	NA		NA		NA		NA		NA		NA		2.18	U	NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-613A	GLX-TPW-614				GLX-TPW-614A	GLX-TPW-615						WASH-C15DS		WASH-NABUTDS	
						Sample Depth^:	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	4 ft	0-5 ft	0-15 ft	1 ft	2-5/4 ft	5-8/7 ft	8-12/10 ft	12-15/13 ft	N/A	5 ft	N/A	3 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	03/19/2020	03/19/2020	03/20/2020	03/20/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**						Field Dup											
	Vanadium	mg/kg	400	NS	NS		NA	**19.3**	NA	NA	NA	NA	**10.9**	NA	NA	NA	NA	NA	NA	NA	**25.0**	NA
	Zinc	mg/kg	1,000	NS	NS		NA	**47.3**	NA	NA	NA	NA	**18.6**	NA	NA	NA	NA	NA	NA	NA	**55.4**	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:		GLX-TPW-613A		GLX-TPW-614						GLX-TPW-614A		GLX-TPW-615								WASH-C15DS				WASH-NABUTDS			
		Sample Depth^:		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		4 ft		0-5 ft		0-15 ft		1 ft		2-5/4 ft		5-8/7 ft		8-12/10 ft		12-15/13 ft		N/A		5 ft		N/A		3 ft	
		Sample Date:		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		03/19/2020		03/19/2020		03/20/2020		03/20/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**							Field Dup																					
Metals, TCLP																																	
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry																																	
	Ignitability	none	NS	NS	NS	NI		NA		NA		NA		NI		NA		NA		NA		NA		NA		NA		NI		NA		NI	
	Specific conductance	umhos/cm	NS	4,000	8,000	**11**		NA		NA		NA		**25**		NA		NA		NA		NA		NA		NA		**110**		NA		**180**	
	pH	su	NS	>2 <12.5	>2 <12.5	**7.4**		NA		**7.5**		**6.3**		NA		**8.2**		NA		NA		**6.6**		**6.6**		**6.2**		**6.2**		**10.2**		NA		**10.9**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	NA		NA		NA		NA		10	U	NA		NA		NA		NA		NA		NA		10	U	NA		10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	NA		NA		NA		NA		10	U	NA		NA		NA		NA		NA		NA		10	U	NA		10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

Table 2 - Soil Characterization Analytical Results
Washington Street - RTN 3-34742
Somerville, Massachusetts

						Sample Location:	GLC-VMF(48)-RCS-2-FILL(48)		GLC-WASHPS				GLC-OSCDRILLSPOILS		GLC-VMF(20)-RCS-1-FILL(16)		GLC-100IB-(0-3)		GLC-NP-314-15	
						Sample Name^:	GLC-VMF(48)-RCS-2-FILL(48)-DC-COMP/GLC-VMF(48)-RCS-2-FILL(48)-DC-VOC-7		GLC-WASHPS-40821-DC-COMP (0-2)/GLC-WASHPS-40821-DC-VOC (1-2)		GLC-WASHPS-041221-DC-COMP/GLC-WASHPS-041221-DC-VOC-6		OSCDRILLSPOILS-210329-DC-COMP/GLC-OSCDRILLSPOILS-210329-DC-VOC-8		GLC-VMF(20)-RCS-1-FILL(16)-DC-COMP/GLC-VMF(20)-RCS-1-FILL(16)-DC-VOC-2		GLC-100IB-(0-3)-041521-DC-COMP/GLC-100IB-(0-3)-041521-DC-VOC-3		GLC-NP-314-15-DC-COMP/GLC-NP-314-15-DC-VOC(4)	
						Sample Depth^:	N/A/7 ft		0-2/1-2 ft		N/A/6 ft		N/A/8 ft		N/A/2 ft		N/A/3 ft		N/A/4 ft	
						Sample Date:	4/6/2021		4/8/2021		4/23/2021		4/23/2021		4/28/2021		4/28/2021		6/10/2021	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*															
VOCs																				
	Methylene chloride	mg/kg	0.1	NS	NS		0.0026	U	0.0038	U	0.0042	U	0.0038	U	0.0028	U	0.0036	U	0.0026	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Chloroform	mg/kg	0.2	NS	NS		0.00077	U	0.0012	U	0.0012	U	0.0011	U	0.00085	U	0.0011	U	0.00078	U
	Carbon tetrachloride	mg/kg	5	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Dibromochloromethane	mg/kg	0.005	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Tetrachloroethene	mg/kg	1	NS	NS		**0.00034**		**0.0024**		**0.0010**		**0.00056**		**0.00040**		0.00036	U	**0.00041**	
	Chlorobenzene	mg/kg	1	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Bromodichloromethane	mg/kg	0.1	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	1,1-Dichloropropene	mg/kg	0.01(4)	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Bromoform	mg/kg	0.1	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Benzene	mg/kg	2	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	**0.0035**		0.00026	U
	Toluene	mg/kg	30	NS	NS		0.00051	U	**0.00079**		0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Ethylbenzene	mg/kg	40	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Chloromethane	mg/kg	100	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	Bromomethane	mg/kg	0.5	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Vinyl chloride	mg/kg	0.7	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Chloroethane	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,1-Dichloroethene	mg/kg	3	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS		0.00077	U	0.0012	U	0.0012	U	0.0011	U	0.00085	U	0.0011	U	0.00078	U
	Trichloroethene	mg/kg	0.3	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	p/m-Xylene	mg/kg	100(2)	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	o-Xylene	mg/kg	100(2)	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Xylenes (Total)	mg/kg	100	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,2-Dichloroethene (total)	mg/kg	0.3	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Dibromomethane	mg/kg	500	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Styrene	mg/kg	3	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	Acetone	mg/kg	6	NS	NS		0.013	U	0.019	U	**0.036**		**0.02**		0.014	U	0.018	U	**0.015**	
	Carbon disulfide	mg/kg	100	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	2-Butanone	mg/kg	4	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	2-Hexanone	mg/kg	100	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	Bromochloromethane	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Tetrahydrofuran	mg/kg	500	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	2,2-Dichloropropane	mg/kg	0.1(3)	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,3-Dichloropropane	mg/kg	500	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Bromobenzene	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	n-Butylbenzene	mg/kg	100(1)	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	sec-Butylbenzene	mg/kg	100(1)	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	tert-Butylbenzene	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	o-Chlorotoluene	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	p-Chlorotoluene	mg/kg	100(5)	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS		0.0015	U	0.0023	U	0.0025	U	0.0023	U	0.0017	U	0.0022	U	0.0016	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	Isopropylbenzene	mg/kg	1,000	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	p-Isopropyltoluene	mg/kg	100	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Naphthalene	mg/kg	4	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	n-Propylbenzene	mg/kg	100	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Ethyl ether	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Isopropyl Ether	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,4-Dioxane	mg/kg	0.2	NS	NS		0.041	U	0.062	U	0.066	U	0.061	U	0.045	U	0.058	U	0.042	U
	Total VOCs	mg/kg	NS	4	10		***0.0003***		***0.003***		***0.037***		***0.021***		***0.0004***		***0.004***		***0.015***	
SVOCs																				
	Acenaphthene	mg/kg	4	NS	NS		0.15	U	0.15	U	0.16	U	0.14	U	0.14	U	0.14	U	0.14	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Azobenzene	mg/kg	NS	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Fluoranthene	mg/kg	1,000	NS	NS		**0.35**		**0.67**		**0.45**		**1.3**		**0.5**		**0.62**		**2.7**	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		0.21	U	0.21	U	0.21	U	0.19	U	0.19	U	0.19	U	0.19	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Hexachloroethane	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Isophorone	mg/kg	100	NS	NS		0.17	U	0.17	U	0.18	U	0.16	U	0.16	U	0.16	U	0.16	U
	Naphthalene	mg/kg	4	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	**0.3**	
	Nitrobenzene	mg/kg	500	NS	NS		0.17	U	0.17	U	0.18	U	0.16	U	0.16	U	0.16	U	0.16	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	**0.32**		0.18	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Diethyl phthalate	mg/kg	10	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Benzo(a)anthracene	mg/kg	7	NS	NS		**0.2**		**0.42**		**0.28**		**0.79**		**0.28**		**0.39**		**2**	
	Benzo(a)pyrene	mg/kg	2	NS	NS		**0.18**		**0.41**		**0.27**		**0.64**		**0.24**		**0.36**		**1.9**	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		**0.23**		**0.51**		**0.34**		**1**		**0.34**		**0.47**		**2.3**	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		0.12	U	**0.22**		**0.12**		**0.38**		**0.1**		**0.14**		**0.77**	
	Chrysene	mg/kg	70	NS	NS		**0.17**		**0.42**		**0.27**		**0.89**		**0.26**		**0.36**		**1.9**	
	Acenaphthylene	mg/kg	1	NS	NS		0.15	U	0.15	U	0.16	U	0.14	U	0.14	U	0.14	U	**0.3**	
	Anthracene	mg/kg	1,000	NS	NS		0.12	U	0.11	U	0.12	U	**0.36**		0.1	U	**0.1**		**0.58**	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		0.15	U	**0.25**		**0.17**		**0.3**		**0.14**		**0.24**		**1.3**	
	Fluorene	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	**0.18**	
	Phenanthrene	mg/kg	10	NS	NS		**0.14**		**0.45**		**0.21**		**0.39**		**0.27**		**0.34**		**1.5**	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	**0.094**		0.074	U	0.073	U	**0.29**	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		0.15	U	**0.28**		**0.18**		**0.35**		**0.15**		**0.24**		**1.4**	
	Pyrene	mg/kg	1,000	NS	NS		**0.32**		**0.6**		**0.4**		**1.1**		**0.46**		**0.61**		**2.8**	
	Aniline	mg/kg	1,000	NS	NS		0.23	U	0.23	U	0.24	U	0.22	U	0.21	U	0.21	U	0.22	U
	4-Chloroaniline	mg/kg	1	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Dibenzofuran	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		0.081	U	**0.1**		0.082	U	0.076	U	0.074	U	0.073	U	**0.13**	
	Acetophenone	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2-Nitrophenol	mg/kg	100	NS	NS		0.42	U	0.41	U	0.42	U	0.39	U	0.38	U	0.38	U	0.39	U
	4-Nitrophenol	mg/kg	100	NS	NS		0.27	U	0.27	U	0.27	U	0.25	U	0.25	U	0.24	U	0.25	U
	2,4-Dinitrophenol	mg/kg	3	NS	NS		0.93	U	0.92	U	0.94	U	0.86	U	0.84	U	0.84	U	0.86	U
	Pentachlorophenol	mg/kg	3	NS	NS		0.39	U	0.38	U	0.39	U	0.36	U	0.35	U	0.35	U	0.36	U
	Phenol	mg/kg	1	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2-Methylphenol	mg/kg	500	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	3-Methylphenol/4-Methylphenol	mg/kg	500	NS	NS		0.28	U	0.27	U	0.28	U	0.26	U	0.25	U	0.25	U	0.26	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Pyridine	mg/kg	500	NS	NS		0.21	U	0.21	U	0.21	U	0.19	U	0.19	U	0.19	U	0.19	U
	Total SVOCs	mg/kg	NS	100	100		***1.59***		***4.33***		***2.69***		***7.59***		***2.74***		***4.19***		***20.4***	

Table 2 - Soil Characterization Analytical Results
Washington Street - RTN 3-34742
Somerville, Massachusetts

						Sample Location:	GLC-VMF(48)-RCS-2-FILL(48)		GLC-WASHPS				GLC-OSCDRILLSPOILS		GLC-VMF(20)-RCS-1-FILL(16)		GLC-100IB-(0-3)		GLC-NP-314-15	
						Sample Name^:	GLC-VMF(48)-RCS-2-FILL(48)-DC-COMP/GLC-VMF(48)-RCS-2-FILL(48)-DC-VOC-7		GLC-WASHPS-40821-DC-COMP (0-2)/GLC-WASHPS-40821-DC-VOC (1-2)		GLC-WASHPS-041221-DC-COMP/GLC-WASHPS-041221-DC-VOC-6		OSCDRILLSPOILS-210329-DC-COMP/GLC-OSCDRILLSPOILS-210329-DC-VOC-8		GLC-VMF(20)-RCS-1-FILL(16)-DC-COMP/GLC-VMF(20)-RCS-1-FILL(16)-DC-VOC-2		GLC-100IB-(0-3)-041521-DC-COMP/GLC-100IB-(0-3)-041521-DC-VOC-3		GLC-NP-314-15-DC-COMP/GLC-NP-314-15-DC-VOC(4)	
						Sample Depth^:	N/A/7 ft		0-2/1-2 ft		N/A/6 ft		N/A/8 ft		N/A/2 ft		N/A/3 ft		N/A/4 ft	
						Sample Date:	4/6/2021		4/8/2021		4/23/2021		4/23/2021		4/28/2021		4/28/2021		6/10/2021	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*															
PCBs																				
	Aroclor-1016	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1221	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1232	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1242	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1248	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1254	mg/kg	1	NS	NS		**0.0606**		0.0368	U	0.0387	U	0.0346	U	**0.0794**		**0.0451**		0.0362	U
	Aroclor-1260	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1262	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1268	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Total PCBs	mg/kg	1	2	2		**0.0606**		0.0368	U	0.0387	U	0.0346	U	**0.0794**		**0.0451**		0.0362	U
Pesticides																				
	Delta-BHC	mg/kg	10	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Lindane	mg/kg	0.003	NS	NS		0.000609	U	0.000614	U	0.000590	U	0.000566	U	0.000560	U	0.000564	U	0.000575	U
	Alpha-BHC	mg/kg	50	NS	NS		0.000761	U	0.000767	U	0.000738	U	0.000707	U	0.000701	U	0.000704	U	0.000719	U
	Beta-BHC	mg/kg	10	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Heptachlor	mg/kg	0.3	NS	NS		0.000913	U	0.000920	U	0.000886	U	0.000848	U	0.000841	U	0.000845	U	0.000862	U
	Aldrin	mg/kg	0.08	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Heptachlor epoxide	mg/kg	0.1	NS	NS		0.00342	U	0.00345	U	0.00332	U	0.00318	U	0.00315	U	0.00317	U	0.00323	U
	Endrin	mg/kg	10	NS	NS		0.000761	U	0.000767	U	0.000738	U	0.000707	U	0.000701	U	0.000704	U	0.000719	U
	Endrin ketone	mg/kg	NS	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Dieldrin	mg/kg	0.08	NS	NS		0.00114	U	0.00115	U	0.00111	U	0.00106	U	0.00105	U	0.00106	U	0.00108	U
	4,4'-DDE	mg/kg	6	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	**0.00348**		**0.00210**	**P**	0.00172	U
	4,4'-DDD	mg/kg	8	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	**0.00518**		**0.00316**		**0.00236**	
	4,4'-DDT	mg/kg	6	NS	NS		0.00342	U	0.00345	U	0.00332	U	0.00318	U	**0.0103**	**P**	0.00317	U	**0.0102**	**P**
	Endosulfan I	mg/kg	0.5	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Endosulfan II	mg/kg	0.5	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Endosulfan sulfate	mg/kg	0.5	NS	NS		0.000761	U	0.000767	U	0.000738	U	0.000707	U	0.000701	U	0.000704	U	0.000719	U
	Methoxychlor	mg/kg	200	NS	NS		0.00342	U	0.00345	U	0.00332	U	0.00318	U	0.00315	U	0.00317	U	0.00323	U
	Chlordane	mg/kg	0.7	NS	NS		0.0152	U	0.0153	U	0.0148	U	0.0141	U	0.0140	U	0.0141	U	0.0144	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
Herbicides																				
	MCPP	mg/kg	NS	NS	NS		3.9	U	3.8	U	3.9	U	3.5	U	3.6	U	3.5	U	3.6	U
	MCPA	mg/kg	100	NS	NS		3.9	U	3.8	U	3.9	U	3.5	U	3.6	U	3.5	U	3.6	U
	Dalapon	mg/kg	1,000	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	Dicamba	mg/kg	500	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	Dichloroprop	mg/kg	NS	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4-D	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4-DB	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4,5-T	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
TPH																				
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000		39.3	U	**75.4**		**65.7**		**64.1**		**48.8**		**107**		**682**	
Metals, total																				
	Antimony	mg/kg	20	NS	NS		2.33	U	2.19	U	2.26	U	2.09	U	2.10	U	2.06	U	2.13	U
	Arsenic	mg/kg	20	40	40		**5.50**		**2.58**		**7.48**		**6.68**		**2.24**		**1.64**		**7.25**	
	Barium	mg/kg	1,000	NS	NS		**51.0**		**35.8**		**41.5**		**49.5**		**35.1**		**46.4**		**51.7**	
	Beryllium	mg/kg	90	NS	NS		**0.270**		**0.373**		0.226	U	0.209	U	**0.315**		**0.362**		**0.392**	
	Cadmium	mg/kg	70	30	80		**0.536**		0.439	U	**0.488**		**0.418**		0.420	U	**0.486**		**0.537**	
	Chromium	mg/kg	100	1,000	1,000		**22.0**		**9.72**		**19.3**		**19.4**		**20.5**		**24.3**		**16.1**	
	Lead	mg/kg	200	1,000	2,000		**18.8**		**27.6**		**78.8**		**87.7**		**20.7**		**25.8**		**133**	
	Mercury	mg/kg	20	10	10		0.086	U	0.078	U	**0.252**		**0.090**		**0.134**		**0.199**		**0.242**	
	Nickel	mg/kg	600	NS	NS		**17.7**		**7.44**		**14.0**		**11.3**		**15.8**		**15.4**		**11.9**	
	Selenium	mg/kg	400	NS	NS		2.33	U	2.19	U	2.26	U	2.09	U	2.10	U	2.06	U	2.13	U
	Silver	mg/kg	100	NS	NS		0.466	U	0.439	U	0.451	U	0.418	U	0.420	U	0.412	U	0.426	U
	Thallium	mg/kg	8	NS	NS		2.33	U	2.19	U	2.26	U	2.09	U	2.10	U	2.06	U	2.13	U
	Vanadium	mg/kg	400	NS	NS		**49.2**		**12.0**		**24.8**		**25.8**		**43.9**		**45.8**		**25.0**	
	Zinc	mg/kg	1,000	NS	NS		**43.6**		**21.1**		**75.7**		**48.7**		**56.8**		**71.0**		**123**	
Metals, TCLP																				
	Lead	mg/L	5**	NS	NS		NA		NA		NA		NA		NA		NA		0.500	U
General Chemistry																				
	Ignitability		NS	NS	NS		NI		NI		NI		NI		NI		NI		NI	
	Reactive Cyanide	mg/kg	NS	< 250	< 250		10	U	10	U	10	U	10	U	10	U	10	U	10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500		10	U	10	U	10	U	10	U	10	U	10	U	10	U
	pH	su	NS	>2 <12.5	>2 <12.5		**8.5**		**8.3**		**8.6**		**8.2**		**8.1**		**8.3**		**8.4**	
	Specific conductance	umhos/cm	NS	4,000	8,000		**86**		**69**		**53**		**82**		**53**		**68**		**110**	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

ug/L - micrograms per liter.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

* - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

** - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

^ - For other/VOCs analysis; otherwise for all the analyses.

(1) - Value for C9-C10 aromatics used.

(2) - Criteria applicable to xylene (total), the sum of the xylene isomers.

(3) - Value for Dichloropropane used.

(4) - Value for Dichloropropene used.

(5) - Value for Chlorotoluene used.

TABLE 1
SOIL SAMPLING SUMMARY

Collection Date	Collection Method	Disposal Sample ID(s)	Receiving Facility or Anticipated Receiving Facility	Disposal Package (Approval Number)
10/7/2021	Stockpile	GLC-NP-306A-18-C-DC-COMP GLC-NP-306A-18-C-DC-VOC-7	Niagara	Niagara No. 6
10/22/2021	Stockpile	GLC-WSPTOPCLEAN-DC-COMP GLC-WSPTOPCLEAN-DC-VOC-7	Lynn	Lynn No. 2 Amendment #4
11/9/2021	Stockpile	GLC-WASHPSSED102221-DC-COMP GLC-WASHPSSED102221-DC-VOC-3	Lynn	Lynn No. 2 Amendment #5
11/11/2021	Stockpile	GLC-NP-318B-02-DC-COMP GLC-NP-318B-02-DC-VOC-4	Heritage	Heritage No. 2 Amendment #4
12/20/2021	Stockpile	GLC-WASHPS20211213-DC-COMP GLC-WASHPS20211213-DC-VOC-06	Lynn	Lynn No. 2 Amendment #6
1/12/2022	Stockpile	GLC-WASHPUMP20210805RU-COMP GLC-WASHPUMP20210805RU-VOC(5)	Lynn	Lynn No. 2 Amendment #7

Receiving Facilities: Lynn Landfill Company, LLC. - Marine Boulevard to 25 Riley Way Extension, Lynn, MA 01905
Allied Niagara Falls Landfill – 5600 Niagara Fall Boulevard, Niagara Falls, NY 14304
Heritage Environmental Services – 4370 W. County Road 1275 N., Roachdale, IN 46172

Table 2 -- Soil Characterization Analytical Results -- October, November, and December 2021 and January 2022
Washington Street
MBTA Green Line Extension Project

						Sample Location:		GLC-NP-306A-18-C-DC		GLC-WASHPSSED-GLC-WASHPSSED10 2221-DC-COMP/GLC-WASHPSSED10 2221-DC-VOC-3		GLC-WSPTOPCLEAN-DC-COMP/GLC-WSPTOPCLEAN-DC-VOC-7		NP-318B-02-DC		WASHPS20211213-DC		WASHPUMP20210805RU-GLC-WASHPUMP20210805RU-COMP/GLC-WASHPUMP20210805RU-VOC (5)	
						Sample Name^:		GLC-NP-306A-18-C-DC-COMP/GLC-NP-306A-18-C-DC-VOC-7						GLC-NP-318B-02-DC-COMP/GLC-NP-318B-02-DC-VOC-4		GLC-WASHPS20211213-DC-COMP/GLC-WASHPS20211213-DC-VOC-06			
						Lab Sample ID^^:		L2154830-05/06/L2155291-02		L2161496-01/02		L2158092-01/02		L2162117-01/02		L2170050-01/02		L2201603-01/02	
						Sample Depth:		N/A/7 ft		N/A/3 ft		N/A/7 ft		N/A/4 ft		N/A/6 ft		N/A/5 ft	
						Sample Date:		10/7/2021		11/9/2021		10/22/2021		11/11/2021		12/20/2021		1/12/2022	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*														
VOCs																			
	Methylene chloride	mg/kg	0.1	NS	NS	0.27	U	0.0070	U	0.0036	U	0.24	U	0.0048	U	0.0056	U		
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Chloroform	mg/kg	0.2	NS	NS	0.081	U	0.0021	U	0.0011	U	0.074	U	0.0014	U	0.0017	U		
	Carbon tetrachloride	mg/kg	5	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Dibromochloromethane	mg/kg	0.005	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Tetrachloroethene	mg/kg	1	NS	NS	**0.05**		**0.023**		**0.017**		**3.2**		**0.0089**		**0.0035**			
	Chlorobenzene	mg/kg	1	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U		
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	0.027	U	0.00070	U	**0.00041**		**0.024**		0.00048	U	0.00056	U		
	Bromodichloromethane	mg/kg	0.1	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	1,1-Dichloropropene	mg/kg	0.01(4)	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	Bromoform	mg/kg	0.1	NS	NS	0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U		
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	Benzene	mg/kg	2	NS	NS	**0.18**		0.00070	U	0.00036	U	0.024	U	**0.00063**		0.00056	U		
	Toluene	mg/kg	30	NS	NS	**0.32**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Ethylbenzene	mg/kg	40	NS	NS	**0.41**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Chloromethane	mg/kg	100	NS	NS	0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U		
	Bromomethane	mg/kg	0.5	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Vinyl chloride	mg/kg	0.7	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Chloroethane	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,1-Dichloroethene	mg/kg	3	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	0.081	U	0.0021	U	0.0011	U	0.074	U	0.0014	U	0.0017	U		
	Trichloroethene	mg/kg	0.3	NS	NS	0.027	U	**0.0034**		**0.00059**		**0.29**		**0.00080**		**0.00065**			
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	p/m-Xylene	mg/kg	100(2)	NS	NS	**0.49**		0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	o-Xylene	mg/kg	100(2)	NS	NS	**0.19**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Xylenes (Total)	mg/kg	100	NS	NS	**0.68**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	0.054	U	**0.0026**		0.00071	U	**0.079**		0.00096	U	0.0011	U		
	1,2-Dichloroethene (total)	mg/kg	0.3	NS	NS	0.054	U	**0.0026**		0.00071	U	**0.079**		0.00096	U	0.0011	U		
	Dibromomethane	mg/kg	500	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Styrene	mg/kg	3	NS	NS	**0.12**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U		
	Acetone	mg/kg	6	NS	NS	0.54	U	0.035	U	0.018	U	0.49	U	0.024	U	0.028	U		
	Carbon disulfide	mg/kg	100	NS	NS	0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U		
	2-Butanone	mg/kg	4	NS	NS	0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U		
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U		
	2-Hexanone	mg/kg	100	NS	NS	0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U		
	Bromochloromethane	mg/kg	NS	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Tetrahydrofuran	mg/kg	500	NS	NS	0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U		
	2,2-Dichloropropane	mg/kg	0.1(3)	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	1,3-Dichloropropane	mg/kg	500	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U		
	Bromobenzene	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	n-Butylbenzene	mg/kg	100(1)	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	sec-Butylbenzene	mg/kg	100(1)	NS	NS	0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	tert-Butylbenzene	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	o-Chlorotoluene	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	p-Chlorotoluene	mg/kg	100(5)	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	0.16	U	0.0042	U	0.0021	U	0.15	U	0.0029	U	0.0033	U		
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U		
	Isopropylbenzene	mg/kg	1,000	NS	NS	**0.069**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	p-Isopropyltoluene	mg/kg	100	NS	NS	**0.16**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	Naphthalene	mg/kg	4	NS	NS	**5.4**		**0.014**		0.0028	U	0.2	U	**0.0052**		0.0045	U		
	n-Propylbenzene	mg/kg	100	NS	NS	**0.057**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U		
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	**0.36**		0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	**0.4**		0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Ethyl ether	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Isopropyl Ether	mg/kg	100	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U		
	1,4-Dioxane	mg/kg	0.2	NS	NS	4.3	U	0.11	U	0.057	U	3.9	U	0.077	U	0.089	U		
	Total VOCs	mg/kg	NS	4	10	***8.21***		***0.043***		***0.018***		***3.59***		***0.016***		***0.004***			

Table 2 -- Soil Characterization Analytical Results -- October, November, and December 2021 and January 2022
Washington Street
MBTA Green Line Extension Project

						Sample Location:	GLC-NP-306A-18-C-DC		GLC-WASHPSSED-		GLC-WSPTOPCLEA		NP-318B-02-DC		WASHPS20211213-DC		WASHPUMP20210805RU	
						Sample Name^:	GLC-NP-306A-18-C-DC-COMP/GLC-NP-306A-18-C-DC-VOC-7		GLC-WASHPSSED10 2221-DC-COMP/GLC-WASHPSSED10 2221-DC-VOC-3		GLC-WSPTOPCLEAN-DC-COMP/GLC-WSPTOPCLEAN-DC-VOC-7		GLC-NP-318B-02-DC-COMP/GLC-NP-318B-02-DC-VOC-4		GLC-WASHPS20211213-DC-COMP/GLC-WASHPS20211213-DC-VOC-06		GLC-WASHPUMP20210805RU-COMP/GLC-WASHPUMP20210805RU-VOC (5)	
						Lab Sample ID^^:	L2154830-05/06/L2155291-02		L2161496-01/02		L2158092-01/02		L2162117-01/02		L2170050-01/02		L2201603-01/02	
						Sample Depth:	N/A/7 ft		N/A/3 ft		N/A/7 ft		N/A/4 ft		N/A/6 ft		N/A/5 ft	
						Sample Date:	10/7/2021		11/9/2021		10/22/2021		11/11/2021		12/20/2021		1/12/2022	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*													
SVOCs																		
	Acenaphthene	mg/kg	4	NS	NS		**6.2**		0.28	U	0.15	U	0.15	U	**0.22**		0.53	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Azobenzene	mg/kg	NS	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Fluoranthene	mg/kg	1,000	NS	NS		**19**		**1**		**1.8**		**1.1**		**3.5**		**1.1**	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		1	U	0.38	U	0.2	U	0.2	U	0.24	U	0.72	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Hexachloroethane	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Isophorone	mg/kg	100	NS	NS		0.83	U	0.31	U	0.17	U	0.16	U	0.2	U	0.6	U
	Naphthalene	mg/kg	4	NS	NS		**11**		**0.42**		**0.34**		0.18	U	**0.51**		0.67	U
	Nitrobenzene	mg/kg	500	NS	NS		0.83	U	0.31	U	0.17	U	0.16	U	0.2	U	0.6	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Diethyl phthalate	mg/kg	10	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Benzo(a)anthracene	mg/kg	7	NS	NS		**10**		**0.45**		**1.2**		**0.68**		**1.8**		**0.62**	
	Benzo(a)pyrene	mg/kg	2	NS	NS		**10**		**0.5**		**1.3**		**0.66**		**1.8**		**0.69**	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		**10**		**0.64**		**1.5**		**0.74**		**2.1**		**0.84**	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		**3.9**		**0.21**		**0.56**		**0.29**		**0.67**		0.4	U
	Chrysene	mg/kg	70	NS	NS		**9.1**		**0.51**		**1.2**		**0.65**		**1.8**		**0.61**	
	Acenaphthylene	mg/kg	1	NS	NS		**4.8**		0.28	U	**0.31**		0.15	U	**0.5**		0.53	U
	Anthracene	mg/kg	1,000	NS	NS		**8.1**		0.21	U	**0.41**		**0.18**		**0.76**		0.4	U
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		**6**		**0.32**		**0.88**		**0.46**		**1.1**		0.53	U
	Fluorene	mg/kg	1,000	NS	NS		**8.8**		0.35	U	**0.19**		0.18	U	**0.35**		0.67	U
	Phenanthrene	mg/kg	10	NS	NS		**24**		**0.82**		**0.97**		**0.54**		**1.5**		**0.62**	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		**1**		0.15	U	**0.19**		**0.13**		**0.26**		0.28	U
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		**6.4**		**0.34**		**0.94**		**0.54**		**1.2**		0.53	U
	Pyrene	mg/kg	1,000	NS	NS		**20**		**1**		**1.8**		**0.98**		**3.4**		**1.1**	
	Aniline	mg/kg	1,000	NS	NS		1.1	U	0.42	U	0.22	U	0.22	U	0.27	U	0.8	U
	4-Chloroaniline	mg/kg	1	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Dibenzofuran	mg/kg	100	NS	NS		**3.4**		0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		**6.6**		0.15	U	**0.18**		0.077	U	**0.28**		0.28	U
	Acetophenone	mg/kg	1,000	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2-Nitrophenol	mg/kg	100	NS	NS		2	U	0.75	U	0.41	U	0.39	U	0.48	U	1.4	U
	4-Nitrophenol	mg/kg	100	NS	NS		1.3	U	0.49	U	0.26	U	0.26	U	0.31	U	0.93	U
	2,4-Dinitrophenol	mg/kg	3	NS	NS		4.4	U	1.7	U	0.9	U	0.88	U	1.1	U	3.2	U
	Pentachlorophenol	mg/kg	3	NS	NS		1.8	U	0.7	U	0.38	U	0.36	U	0.44	U	1.3	U
	Phenol	mg/kg	1	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2-Methylphenol	mg/kg	500	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	3/4-Methylphenol	mg/kg	NS	NS	NS		1.3	U	0.5	U	0.27	U	0.26	U	0.32	U	0.96	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Pyridine	mg/kg	500	NS	NS		1	U	0.38	U	0.2	U	0.2	U	0.24	U	0.72	U
	Biphenyl	mg/kg	0.05	NS	NS		NA		0.8	U	NA		0.42	U	**0.045**		0.13	U
	Total SVOCs	mg/kg	NS	100	100		***168***		***6.21***		***13.8***		***6.95***		***21.8***		***5.58***	
PCBs																		
	Aroclor-1016	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1221	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1232	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1242	mg/kg	1	NS	NS		**0.236**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1248	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1254	mg/kg	1	NS	NS		**0.0879**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1260	mg/kg	1	NS	NS		**0.0428**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1262	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1268	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Total PCBs	mg/kg	1	2	2		**0.367**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U

Table 2 -- Soil Characterization Analytical Results -- October, November, and December 2021 and January 2022
Washington Street
MBTA Green Line Extension Project

						Sample Location:		GLC-NP-306A-18-C-DC		GLC-WASHPSSED-GLC-WASHPSSED10 2221-DC-COMP/GLC-WASHPSSED10 2221-DC-VOC-3		GLC-WSPTOPCLEAN-DC-COMP/GLC-WSPTOPCLEAN-DC-VOC-7		NP-318B-02-DC-GLC-NP-318B-02-DC-COMP/GLC-NP-318B-02-DC-VOC-4		WASHPS20211213-DC-GLC-WASHPS20211213-DC-COMP/GLC-WASHPS20211213-DC-VOC-06		WASHPUMP20210805RU-GLC-WASHPUMP20210805RU-COMP/GLC-WASHPUMP20210805RU-VOC (5)	
						Sample Name^:		GLC-NP-306A-18-C-DC-COMP/GLC-NP-306A-18-C-DC-VOC-7											
						Lab Sample ID^^:		L2154830-05/06/L2155291-02		L2161496-01/02		L2158092-01/02		L2162117-01/02		L2170050-01/02		L2201603-01/02	
						Sample Depth:		N/A/7 ft		N/A/3 ft		N/A/7 ft		N/A/4 ft		N/A/6 ft		N/A/5 ft	
						Sample Date:		10/7/2021		11/9/2021		10/22/2021		11/11/2021		12/20/2021		1/12/2022	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*														
Pesticides																			
	Delta-BHC	mg/kg	10	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	Lindane	mg/kg	0.003	NS	NS	0.00588	U	0.00108	U	0.000587	U	0.000577	U	0.00198	U	0.000771	U		
	Alpha-BHC	mg/kg	50	NS	NS	0.00735	U	0.00136	U	0.000733	U	0.000721	U	0.00247	U	0.000964	U		
	Beta-BHC	mg/kg	10	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	Heptachlor	mg/kg	0.3	NS	NS	0.00882	U	0.00163	U	0.000880	U	0.000866	U	0.00297	U	0.00116	U		
	Aldrin	mg/kg	0.08	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	Heptachlor epoxide	mg/kg	0.1	NS	NS	0.0331	U	0.00610	U	0.00330	U	0.00325	U	0.0111	U	0.00434	U		
	Endrin	mg/kg	10	NS	NS	0.00735	U	0.00136	U	0.000733	U	0.000721	U	0.00247	U	0.000964	U		
	Endrin ketone	mg/kg	10	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	Dieldrin	mg/kg	0.08	NS	NS	0.0110	U	0.00203	U	0.00110	U	0.00108	U	0.00371	U	0.00144	U		
	4,4'-DDE	mg/kg	6	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	4,4'-DDD	mg/kg	8	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	4,4'-DDT	mg/kg	6	NS	NS	**0.0397**		**0.00652**		0.00330	U	**0.00342**	**IP**	0.0111	U	0.00434	U		
	Endosulfan I	mg/kg	0.5	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	Endosulfan II	mg/kg	0.5	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
	Endosulfan sulfate	mg/kg	0.5	NS	NS	0.00735	U	0.00136	U	0.000733	U	0.000721	U	0.00247	U	0.000964	U		
	Methoxychlor	mg/kg	200	NS	NS	0.0331	U	0.00610	U	0.00330	U	0.00325	U	0.0111	U	0.00434	U		
	Chlordane	mg/kg	0.7	NS	NS	0.147	U	0.0271	U	0.0147	U	0.0144	U	0.0495	U	0.0193	U		
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U		
Herbicides																			
	MCPP	mg/kg	NS	NS	NS	3.7	U	7	U	3.8	U	3.7	U	4.5	U	4.7	U		
	MCPA	mg/kg	100	NS	NS	3.7	U	7	U	3.8	U	3.7	U	4.5	U	4.7	U		
	Dalapon	mg/kg	1,000	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
	Dicamba	mg/kg	500	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
	Dichloroprop	mg/kg	NS	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
	2,4-D	mg/kg	100	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
	2,4-DB	mg/kg	100	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
	2,4,5-T	mg/kg	100	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U		
TPH																			
	Total Petroleum Hydrocarbons	mg/kg	1,000	2,500	5,000	**4,340**		**174**		**408**		**120**		**2,160**		**770**			
Metals, total																			
	Antimony	mg/kg	20	NS	NS	2.19	U	4.18	U	2.24	U	2.13	U	2.59	U	2.82	U		
	Arsenic	mg/kg	20	40	40	**5.36**		**9.18**		**3.44**		**3.85**		**5.11**		**5.55**			
	Barium	mg/kg	1,000	NS	NS	**38.0**		**92.1**		**24.1**		**35.8**		**39.8**		**53.4**			
	Beryllium	mg/kg	90	NS	NS	**0.237**		**0.619**		**0.287**		**0.255**		**0.301**		**0.366**			
	Cadmium	mg/kg	70	30	80	**0.657**		**1.08**		0.449	U	0.425	U	0.518	U	0.564	U		
	Chromium	mg/kg	100	1,000	1,000	**12.1**		**37.3**		**16.0**		**12.7**		**16.9**		**20.3**			
	Lead	mg/kg	200	1,000	2,000	**134**		**80.9**		**38.9**		**60.5**		**91.7**		**72.9**			
	Mercury	mg/kg	20	10	10	**0.187**		0.152	U	**0.093**		**0.191**		**0.445**		**0.207**			
	Nickel	mg/kg	600	NS	NS	**9.30**		**25.9**		**10.9**		**10.2**		**12.2**		**14.5**			
	Selenium	mg/kg	400	NS	NS	2.19	U	4.18	U	2.24	U	2.13	U	2.59	U	2.82	U		
	Silver	mg/kg	100	NS	NS	0.438	U	0.837	U	0.449	U	0.425	U	0.518	U	0.564	U		
	Thallium	mg/kg	8	NS	NS	2.19	U	4.18	U	2.24	U	2.13	U	2.59	U	2.82	U		
	Vanadium	mg/kg	400	NS	NS	**22.9**		**50.1**		**29.8**		**16.6**		**24.6**		**27.6**			
	Zinc	mg/kg	1,000	NS	NS	**160**		**148**		**67.6**		**62.6**		**96.5**		**101**			
Metals, TCLP																			
	Lead	mg/L	5**	NS	NS	0.500	U	NA		NA		NA		NA		NA			
General Chemistry																			
	Ignitability		NS	NS	NS	NI		NI		NI		NI		NI		NI			
	Specific Conductance	umhos/cm	NS	4,000	8,000	**110**		**110**		**68**		**93**		**110**		**86**			
	pH	su	NS	2 - 12.5	2 - 12.5	**7.6**		**8.2**		**8.0**		**8.2**		**7.4**		**7.4**			
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	10	U	10	U	10	U	10	U	10	U		
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	10	U	10	U	10	U	10	U	10	U		

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable/available.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

* - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

** - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

RC - Reportable concentration.

TPH - Total Petroleum Hydrocarbons.

(1) - Value for C9-C10 aromatics used.

(2) - Criteria applicable to xylene (total), the sum of the xylene isomers.

(3) - Value for Dichloropropane used.

(4) - Value for Dichloropropene used.

(5) - Value for Chlorotoluene used.

^ - Sample name for Other/VOC analysis.

^^ - Lab Sample ID for Other/VOC/TCLP analysis; otherwise Lab Sample ID applied to Other/VOC analysis.

Table 2 - Soil Characterization Analytical Results
MBTA Green Line Extension Project
132 Washington Street
Somerville, Massachusetts
Release Tracking Number 3-34742
March 2022 - August 2022

											LOCATION	GLC-WASHPUMPGAS030222-DC-COMP		GLC-WASHPUMPGAS030222-DC-VOC(1)	
											SAMPLING DATE	3/11/2022		3/11/2022	
											LAB SAMPLE ID	22C1091-01		22C1091-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
General Chemistry															
	Specific Conductance @ 25 C	SC					8000	4000	2000		umhos/cm	30		-	-
	Solids, Total	TSOLIDS									%	87.0		87.0	
	pH (H)	12408-02-5							5-9	2-12.5	SU	8.8		-	-
	Cyanide, Reactive	GIS-250-012							250	250	mg/kg	3.9	U	-	-
	Sulfide, Reactive	RSULF							500	500	mg/kg	19	U	-	-
Ignitability of Solids															
	Ignitability	IGNIT							>140°	NI		Absent		-	-
MCP Chlorinated Herbicides															
	2,4-D	94-75-7		100	1000				10		mg/kg	0.11	U	-	-
	2,4-DB	94-82-6		100	1000				10		mg/kg	0.11	U	-	-
	2,4,5-TP (Silvex)	93-72-1		100	1000				10		mg/kg	0.011	U	-	-
	2,4,5-T	93-76-5		100	1000				10		mg/kg	0.011	U	-	-
	Dalapon	75-99-0		1000	10000				100		mg/kg	0.29	U	-	-
	Dicamba	1918-00-9		500	5000				50		mg/kg	0.011	U	-	-
	Dichloroprop	120-36-5							0.08		mg/kg	0.11	U	-	-
	MCPA	94-74-6		100	1000				10		mg/kg	11	U	-	-
	MCPP	93-65-2							3.3		mg/kg	11	U	-	-
MCP Organochlorine Pesticides															
	Aldrin	309-00-2		0.08	0.5	0.7			0.05		mg/kg	0.11	U	-	-
	Alpha-BHC	319-84-6		50	500				5		mg/kg	0.11	U	-	-
	Beta-BHC	319-85-7		10	100				1		mg/kg	0.11	U	-	-
	Delta-BHC	319-86-8		10	100				1		mg/kg	0.11	U	-	-
	Lindane	58-89-9		0.003	0.5	0.46			0.0003		mg/kg	0.046	U	-	-
	Chlordane	57-74-9		0.7	30	27			0.07		mg/kg	0.46	U	-	-
	4,4'-DDD	72-54-8		8	40	14			0.8		mg/kg	0.092	U	-	-
	4,4'-DDE	72-55-9		6	30	14			0.6		mg/kg	0.092	U	-	-
	4,4'-DDT	50-29-3		6	30	14			0.6		mg/kg	0.092	U	-	-
	Dieldrin	60-57-1		0.08	0.5	1			0.05		mg/kg	0.092	U	-	-
	Endosulfan I	959-98-8		0.5	1	1.2			0.05		mg/kg	0.11	U	-	-
	Endosulfan II	33213-65-9		0.5	1	1.2			0.05		mg/kg	0.18	U	-	-
	Endosulfan sulfate	1031-07-8							0.008		mg/kg	0.18	U	-	-
	Endrin	72-20-8		10	20	7			1		mg/kg	0.18	U	-	-
	Endrin ketone	53494-70-5							0.008		mg/kg	0.18	U	-	-
	Heptachlor	76-44-8		0.3	2	4.2			0.03		mg/kg	0.11	U	-	-
	Heptachlor epoxide	1024-57-3		0.1	0.9	0.35			0.01		mg/kg	0.11	U	-	-
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.07	0.8	mg/kg	0.14	U	-	-
	Methoxychlor	72-43-5		200	400	140			20		mg/kg	1.1	U	-	-
MCP Polychlorinated Biphenyls															
	Aroclor 1016	12674-11-2		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1221	11104-28-2		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1232	11141-16-5		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1242	53469-21-9		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1248	12672-29-6		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1254	11097-69-1		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1260	11096-82-5		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1262	37324-23-5		1	4	1.6					mg/kg	0.092	U	-	-
	Aroclor 1268	11100-14-4		1	4	1.6					mg/kg	0.092	U	-	-
	PCBs, Total	1336-36-3		1	4	1.6	2	2	0.1	4	mg/kg	0.092	U	-	-
MCP Semivolatile Organics															
	Biphenyl	92-52-4		0.05	6				0.005			0.77	U		
	Acenaphthene	83-32-9	0.5	4	3000	5000			4	69	mg/kg	0.099	J	-	-
	Acenaphthylene	208-96-8	0.5	1	10	14			1	10	mg/kg	0.16	J	-	-
	Acetophenone	98-86-2		1000	10000				100	2500	mg/kg	0.39	U	-	-
	Aniline	62-53-3		1000	10000				100	2500	mg/kg	0.39	U	-	-
	Anthracene	120-12-7	1	1000	3000	5000			1000	2500	mg/kg	0.43		-	-
	Benzo(a)anthracene	56-55-3	2	7	40	160			7	40	mg/kg	1.2		-	-
	Benzo(a)pyrene	50-32-8	2	2	7	16			2	7	mg/kg	1.3		-	-
	Benzo(b)fluoranthene	205-99-2	2	7	40	160			7	40	mg/kg	1.5		-	-
	Benzo(ghi)perylene	191-24-2	1	1000	3000	5000			1000	2500	mg/kg	0.64		-	-
	Benzo(k)fluoranthene	207-08-9	1	70	400	1600			70	400	mg/kg	0.61		-	-
	Bis(2-chloroethoxy)methane	111-91-1		500	5000				50	2500	mg/kg	0.39	U	-	-
	Bis(2-chloroethyl)ether	111-44-4		0.7	0.7	4.7			0.1	0.7	mg/kg	0.39	U	-	-
	Bis(2-chloroisopropyl)ether	108-60-1		0.7	0.7	74			0.1	0.7	mg/kg	0.39	U	-	-
	Bis(2-ethylhexyl)phthalate	117-81-7		90	600	230			60	600	mg/kg	0.39	U	-	-
	4-Bromophenyl phenyl ether	101-55-3		100	1000				10	500	mg/kg	0.39	U	-	-
	Butyl benzyl phthalate	85-68-7		100	1000				10	500	mg/kg	0.39	U	-	-
	4-Chloroaniline	106-47-8		1	3	3.3			0.1	3	mg/kg	0.76	U	-	-
	2-Chloronaphthalene	91-58-7		1000	10000				100	2500	mg/kg	0.39	U	-	-
	2-Chlorophenol	95-57-8		0.7	100	310			0.1	7	mg/kg	0.39	U	-	-
	Chrysene	218-01-9	2	70	400	3400			70	400	mg/kg	1.2		-	-
	Dibenzo(a,h)anthracene	53-70-3	0.5	0.7	4	16			0.7	4	mg/kg	0.19	J	-	-
	Dibenzofuran	132-64-9		100	1000				100	500	mg/kg	0.15	J	-	-
	Di-n-butylphthalate	84-74-2		50	500				5	375	mg/kg	0.39	U	-	-
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	90	mg/kg	0.39	U	-	-
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	30	mg/kg	0.39	U	-	-
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	1	mg/kg	0.39	U	-	-
	3,3'-Dichlorobenzidine	91-94-1		3	20	20			0.3	20	mg/kg	0.2	U	-	-
	2,4-Dichlorophenol	120-83-2		0.7	40	40			0.1	7	mg/kg	0.39	U	-	-
	Diethyl phthalate	84-66-2		10	200	290			1	75	mg/kg	0.39	U	-	-
	2,4-Dimethylphenol	105-67-9		0.7	100	1300			0.1	7	mg/kg	0.39	U	-	-
	Dimethyl phthalate	131-11-3		0.7	50	550			0.1	7	mg/kg	0.39	U	-	-
	2,4-Dinitrophenol	51-28-5		3	50	45			0.3	30	mg/kg	0.76	U	-	-
	2,4-Dinitrotoluene	121-14-2		0.7	10	36			0.1	7	mg/kg	0.39	U	-	-
	2,6-Dinitrotoluene	606-20-2		100	1000				10	500	mg/kg	0.39	U	-	-
	Di-n-octylphthalate	117-84-0		1000	10000				100	2500	mg/kg	0.39	U	-	-
	Azobenzene	103-33-3		50	500				5	375	mg/kg	0.39	U	-	-
	Fluoranthene	206-44-0	4	1000	3000	5000			1000	2500	mg/kg	2.2		-	-
	Fluorene	86-73-7	1	1000	3000	5000			1000	2500	mg/kg	0.18	J	-	-

Table 2 - Soil Characterization Analytical Results
MBTA Green Line Extension Project
132 Washington Street
Somerville, Massachusetts
Release Tracking Number 3-34742
March 2022 - August 2022

											LOCATION	GLC-WASHPUMPGAS030222-DC-COMP		GLC-WASHPUMPGAS030222-DC-VOC(1)	
											SAMPLING DATE	3/11/2022		3/11/2022	
											LAB SAMPLE ID	22C1091-01		22C1091-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.1	0.8	mg/kg	0.39	U	-	-
	Hexachlorobutadiene	87-68-3		30	100	54			3	100	mg/kg	0.39	U	-	-
	Hexachloroethane	67-72-1		0.7	3	74			0.1	3	mg/kg	0.39	U	-	-
	Indeno(1,2,3-cd)pyrene	193-39-5	1	7	40	160			7	40	mg/kg	0.70		-	-
	Isophorone	78-59-1		100	1000				10	500	mg/kg	0.39	U	-	-
	2-Methylnaphthalene	91-57-6	0.5	0.7	80	240			0.7	25	mg/kg	0.18	J	-	-
	2-Methylphenol	95-48-7		500	5000				50	2500	mg/kg	0.39	U	-	-
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5		500	5000				50	2500	mg/kg	0.39	U	-	-
	Naphthalene	91-20-3	0.5	4	20	3000			4	20	mg/kg	0.32		-	-
	Nitrobenzene	98-95-3		500	5000				50	2500	mg/kg	0.39	U	-	-
	2-Nitrophenol	88-75-5		100	1000				10	500	mg/kg	0.39	U	-	-
	4-Nitrophenol	100-02-7		100	1000				10	500	mg/kg	0.76	U	-	-
	Pentachlorophenol	87-86-5		3	10	13			0.3	10	mg/kg	0.39	U	-	-
	Phenanthrene	85-01-8	3	10	1000	3000			10	532.5	mg/kg	1.2		-	-
	Phenol	108-95-2		1	20	16			0.1	10	mg/kg	0.39	U	-	-
	Pyrene	129-00-0	4	1000	3000	5000			1000	2500	mg/kg	2.3		-	-
	Pyridine	110-86-1		500	5000				50		mg/kg	0.39	U	-	-
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	6	mg/kg	0.39	U	-	-
	2,4,5-Trichlorophenol	95-95-4		4	600	580			0.4	40	mg/kg	0.39	U	-	-
	2,4,6-Trichlorophenol	88-06-2		0.7	20	19			0.1	7	mg/kg	0.39	U	-	-
	Total SVOCs						100	100			mg/kg	14.559	J	-	-
MCP Total Metals															
	Antimony, Total	7440-36-0	1	20	30	16			20	30	mg/kg	1.9	U	-	-
	Arsenic, Total	7440-38-2	20	20	20	11	40	40	20	20	mg/kg	4.1		-	-
	Barium, Total	7440-39-3	50	1000	3000	2100			1000	2500	mg/kg	38		-	-
	Beryllium, Total	7440-41-7	0.4	90	200	10			90	200	mg/kg	0.38		-	-
	Cadmium, Total	7440-43-9	2	70	100	16	80	30	70	100	mg/kg	0.38	U	-	-
	Chromium, Total	7440-47-3	30	100	200	570	1000	1000	100	200	mg/kg	23		-	-
	Lead, Total	7439-92-1	100	200	600	110	2000	1000	200	600	mg/kg	32		-	-
	Mercury, Total	7439-97-6	0.3	20	30	16	10	10	20	30	mg/kg	0.17		-	-
	Nickel, Total	7440-02-0	20	600	1000	350			600	1000	mg/kg	19		-	-
	Selenium, Total	7782-49-2	0.5	400	700	390			400	700	mg/kg	3.8	U	-	-
	Silver, Total	7440-22-4	0.6	100	200	110			100	200	mg/kg	0.38	U	-	-
	Thallium, Total	7440-28-0	0.6	8	60	37			8	60	mg/kg	1.9	U	-	-
	Vanadium, Total	7440-62-2	30	400	700	530			400	700	mg/kg	42		-	-
	Zinc, Total	7440-66-6	100	1000	3000	5000			1000	2500	mg/kg	65		-	-
MCP Volatile Organics by EPA 5035															
	Acetone	67-64-1		6	50	350			0.6	50	mg/kg	-	-	0.074	U
	Tertiary-Amyl Methyl Ether	994-05-8							0.01		mg/kg	-	-	0.00074	U
	Benzene	71-43-2		2	200	540			0.2	20	mg/kg	-	-	0.0015	U
	Bromobenzene	108-86-1		100	1000				10	500	mg/kg	-	-	0.0015	U
	Bromochloromethane	74-97-5							0.01		mg/kg	-	-	0.0015	U
	Bromodichloromethane	75-27-4		0.1	0.1	460			0.1	0.1	mg/kg	-	-	0.0015	U
	Bromoform	75-25-2		0.1	1	800			0.1	1	mg/kg	-	-	0.0015	U
	Bromomethane	74-83-9		0.5	0.5	32			0.1	0.5	mg/kg	-	-	0.0074	U
	Methyl ethyl ketone	78-93-3		4	50	350			0.4	40	mg/kg	-	-	0.029	U
	n-Butylbenzene	104-51-8							0.01	500	mg/kg	-	-	0.0015	U
	sec-Butylbenzene	135-98-8							0.01	500	mg/kg	-	-	0.0015	U
	tert-Butylbenzene	98-06-6		100	1000				10	500	mg/kg	-	-	0.0015	U
	Ethyl-Tert-Butyl-Ether	637-92-3							0.01		mg/kg	-	-	0.00074	U
	Carbon disulfide	75-15-0		100	1000				10	500	mg/kg	-	-	0.0074	U
	Carbon tetrachloride	56-23-5		5	5	220			0.5	5	mg/kg	-	-	0.0015	U
	Chlorobenzene	108-90-7		1	3	110			0.1	3	mg/kg	-	-	0.0015	U
	Dibromochloromethane	124-48-1		0.005	0.03	340			0.0005	0.03	mg/kg	-	-	0.00074	U
	Chloroethane	75-00-3		100	1000				10	500	mg/kg	-	-	0.015	U
	Chloroform	67-66-3		0.2	0.2	410			0.1	0.2	mg/kg	-	-	0.0029	U
	Chloromethane	74-87-3		100	1000				10	500	mg/kg	-	-	0.0074	U
	o-Chlorotoluene	95-49-8		100	1000				10	500	mg/kg	-	-	0.0015	U
	p-Chlorotoluene	106-43-4							0.01	500	mg/kg	-	-	0.0015	U
	1,2-Dibromo-3-chloropropane	96-12-8		10	100				1	75	mg/kg	-	-	0.0015	U
	1,2-Dibromoethane	106-93-4		0.1	0.1	0.33			0.1	0.1	mg/kg	-	-	0.00074	U
	Dibromomethane	74-95-3		500	5000				50	2500	mg/kg	-	-	0.0015	U
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	90	mg/kg	-	-	0.0015	U
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	30	mg/kg	-	-	0.0015	U
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	1	mg/kg	-	-	0.0015	U
	Dichlorodifluoromethane	75-71-8		1000	10000				100	2500	mg/kg	-	-	0.015	U
	1,1-Dichloroethane	75-34-3		0.4	9	1300			0.1	4	mg/kg	-	-	0.0015	U
	1,2-Dichloroethane	107-06-2		0.1	0.1	310			0.1	0.1	mg/kg	-	-	0.0015	U
	1,1-Dichloroethene	75-35-4		3	40	1600			0.3	30	mg/kg	-	-	0.0029	U
	cis-1,2-Dichloroethene	156-59-2		0.1	0.1	500			0.1	0.1	mg/kg	-	-	0.0015	U
	trans-1,2-Dichloroethene	156-60-5		1	1	2500			0.1	1	mg/kg	-	-	0.0015	U
	1,2-Dichloropropane	78-87-5		0.1	0.1	280			0.1	0.1	mg/kg	-	-	0.0015	U
	1,3-Dichloropropane	142-28-9		500	5000				50	2500	mg/kg	-	-	0.00074	U
	2,2-Dichloropropane	594-20-7							0.01	0.1	mg/kg	-	-	0.0015	U
	1,1-Dichloropropene	563-58-6							0.01	0.1	mg/kg	-	-	0.0015	U
	cis-1,3-Dichloropropene	10061-01-5		0.01	0.4	140			0.001	0.1	mg/kg	-	-	0.00074	U
	trans-1,3-Dichloropropene	10061-02-6		0.01	0.4	140			0.001	0.1	mg/kg	-	-	0.00074	U
	Diethyl ether	60-29-7		100	1000				10	500	mg/kg	-	-	0.015	U
	Diisopropyl Ether	108-20-3		100	1000				10	500	mg/kg	-	-	0.00074	U
	1,4-Dioxane	123-91-1		0.2	6	450			0.1	2	mg/kg	-	-	0.074	U
	Ethylbenzene	100-41-4		40	1000	230			4	300	mg/kg	-	-	0.0015	U
	Hexachlorobutadiene	87-68-3		30	100	54			3	100	mg/kg	-	-	0.0015	U
	2-Hexanone	591-78-6		100	1000				10	500	mg/kg	-	-	0.015	U
	Isopropylbenzene	98-82-8		1000	10000				100	2500	mg/kg	-	-	0.0015	U
	p-Isopropyltoluene	99-87-6		100	1000				10	500	mg/kg	-	-	0.0015	U
	Methyl tert butyl ether	1634-04-4		0.1	100	500			0.1	1.9	mg/kg	-	-	0.0029	U
	Methylene chloride	75-09-2		0.1	4	900			0.1	1	mg/kg	-	-	0.015	U
	Methyl isobutyl ketone	108-10-1		0.4	50	400			0.1	4	mg/kg	-	-	0.015	U
	Naphthalene	91-20-3	0.5	4	20	3000			4	20	mg/kg	-	-	0.0029	U

Table 2 - Soil Characterization Analytical Results
MBTA Green Line Extension Project
132 Washington Street
Somerville, Massachusetts
Release Tracking Number 3-34742
March 2022 - August 2022

											LOCATION	GLC-WASHPUMPGAS030222-DC-COMP		GLC-WASHPUMPGAS030222-DC-VOC(1)	
											SAMPLING DATE	3/11/2022		3/11/2022	
											LAB SAMPLE ID	22C1091-01		22C1091-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	n-Propylbenzene	103-65-1		100	1000				10	500	mg/kg	-	-	0.0015	U
	Styrene	100-42-5		3	4	630			0.3	4	mg/kg	-	-	0.0015	U
	1,1,1,2-Tetrachloroethane	630-20-6		0.1	0.1	150			0.1	0.1	mg/kg	-	-	0.0015	U
	1,1,2,2-Tetrachloroethane	79-34-5		0.005	0.02	19			0.0005	0.02	mg/kg	-	-	0.00074	U
	Tetrachloroethene	127-18-4		1	10	370			0.1	10	mg/kg	-	-	0.0085	
	Tetrahydrofuran	109-99-9		500	5000				50	2500	mg/kg	-	-	0.0074	U
	Toluene	108-88-3		30	1000	520			3	225	mg/kg	-	-	0.0015	U
	1,2,3-Trichlorobenzene	87-61-6							0.01		mg/kg	-	-	0.0015	U
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	6	mg/kg	-	-	0.0015	U
	1,1,1-Trichloroethane	71-55-6		30	600	1400			3	225	mg/kg	-	-	0.0015	U
	1,1,2-Trichloroethane	79-00-5		0.1	2	91			0.1	1	mg/kg	-	-	0.0015	U
	Trichloroethene	79-01-6		0.3	0.3	810			0.1	0.3	mg/kg	-	-	0.0015	U
	Trichlorofluoromethane	75-69-4		1000	10000				100	2500	mg/kg	-	-	0.0074	U
	1,2,3-Trichloropropane	96-18-4		100	1000				10	500	mg/kg	-	-	0.0015	U
	1,2,4-Trimethylbenzene	95-63-6		1000	10000				100	2500	mg/kg	-	-	0.0015	U
	1,3,5-Trimethylbenzene	108-67-8		10	100				1	75	mg/kg	-	-	0.0015	U
	Vinyl chloride	75-01-4		0.7	0.7	12			0.1	0.7	mg/kg	-	-	0.0074	U
	p/m-Xylene	179601-23-1		100	100	270			10	100	mg/kg	-	-	0.0029	U
	o-Xylene	95-47-6		100	100	270			10	100	mg/kg	-	-	0.0015	U
	Total VOCs						10	4			mg/kg	-	-	0.0085	
Petroleum Hydrocarbon Quantitation															
	TPH (C9-C36)	TPHC9-C36		1000	3000	500	5000	2500	500	2500	mg/kg	760		-	-

Yellow shading indicates detected result is equal to or above one or more of the listed criteria, except for MA Background Level Natural soil.
Gray shading indicates nondetect detection limit is above one or more of the listed criteria, except for MA Background Level Natural soil.
RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effective April 25, 2014.
RCS-2-14: MCP 2014 RCS-2 Reportable Concentrations Criteria effective April 25, 2014.
BUD-S3/G3: MassDEP Proposed S3, GW-3 Beneficial Use Determination (BUD) Values Criteria per Draft Interim Guidance Document effective March 18, 2004.
MA-BLNS: Background Level Natural soil current as of 10/24/07
MA-LLAND: Lined Landfill Limits current as of August, 1997
MA-ULAND: UnLined Landfill Limits current as of August, 1997
TRC-SSSR-GLX: Site Specific Soil Reuse Criteria: Vehicle Maintenance Facility for GLX Project Criteria per client-provided Table X February 21, 2018.
Saugus: Acceptance Criteria for Aggregate Industries - Saugus Quarry, Table 1.
U - Not detected at the reported detection limit for the sample.
J - Estimated value.

Table 2 - 2022 Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July 27, 2022

											LOCATION	GLC-WASHPUMPGRADING-062322-DC-VOC(7)		GLC-WASHPUMPGRADING-062322-DC-COMP	
											SAMPLING DATE	7/27/2022		7/27/2022	
											LAB SAMPLE ID	L2240165-01		L2240165-02	
											SAMPLE TYPE	SOIL		SOIL	
											REUSE/DISPOSAL FACILITY	MA Unlined Landfill		MA Unlined Landfill	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	Dudley <RCS-2	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
General Chemistry															
	Specific Conductance @ 25 C	NONE					8000	4000	2000	2000		umhos/cm	-	-	200	
	Solids, Total	NONE										%	98.1		96.6	
	pH (H)	12408-02-5							5-9	5-9	2-12.5	SU	-	-	8	
	Cyanide, Reactive	57-12-5							250	250	250	mg/kg	-	-	10	U
	Sulfide, Reactive	NONE							500	500	500	mg/kg	-	-	10	U
Ignitability of Solids																
	Ignitability	NONE							>140°	Not Ignitable (NI)	NI		-	-	NI	
MCP Chlorinated Herbicides																
	MCPP	93-65-2							3.3			mg/kg	-	-	3.4	U
	MCPA	94-74-6		100	1000				10	100		mg/kg	-	-	3.4	U
	Dalapon	75-99-0		1000	10000				100	1000		mg/kg	-	-	0.034	U
	Dicamba	1918-00-9		500	5000				50	500		mg/kg	-	-	0.034	U
	Dichloroprop	120-36-5							0.08			mg/kg	-	-	0.034	U
	2,4-D	94-75-7		100	1000				10	100		mg/kg	-	-	0.034	U
	2,4-DB	94-82-6		100	1000				10	100		mg/kg	-	-	0.034	U
	2,4,5-T	93-76-5		100	1000				10	100		mg/kg	-	-	0.034	U
	2,4,5-TP (Silvex)	93-72-1		100	1000				10	100		mg/kg	-	-	0.034	U
MCP Organochlorine Pesticides																
	Delta-BHC	319-86-8		10	100				1	10		mg/kg	-	-	0.00159	U
	Lindane	58-89-9		0.003	0.5	0.46			0.0003	0.05		mg/kg	-	-	0.00053	U
	Alpha-BHC	319-84-6		50	500				5	50		mg/kg	-	-	0.000663	U
	Beta-BHC	319-85-7		10	100				1	10		mg/kg	-	-	0.00159	U
	Heptachlor	76-44-8		0.3	2	4.2			0.05	0.2		mg/kg	-	-	0.000796	U
	Aldrin	309-00-2		0.08	0.5	0.7			0.05	0.05		mg/kg	-	-	0.00159	U
	Heptachlor epoxide	1024-57-3		0.1	0.9	0.35			0.05	0.09		mg/kg	-	-	0.00298	U
	Endrin	72-20-8		10	20	7			1	2		mg/kg	-	-	0.000663	U
	Endrin ketone	53494-70-5							0.008			mg/kg	-	-	0.00159	U
	Dieldrin	60-57-1		0.08	0.5	1			0.05	0.05		mg/kg	-	-	0.000995	U
	4,4'-DDE	72-55-9		6	30	14			0.6	3		mg/kg	-	-	0.00159	U
	4,4'-DDD	72-54-8		8	40	14			0.8	4		mg/kg	-	-	0.00159	U
	4,4'-DDT	50-29-3		6	30	14			0.6	3		mg/kg	-	-	0.00298	U
	Endosulfan I	959-98-8		0.5	1	1.2			0.05	0.1		mg/kg	-	-	0.00159	U
	Endosulfan II	33213-65-9		0.5	1	1.2			0.05	0.1		mg/kg	-	-	0.00159	U
	Endosulfan sulfate	1031-07-8							0.008			mg/kg	-	-	0.000663	U
	Methoxychlor	72-43-5		200	400	140			20	40		mg/kg	-	-	0.00298	U
	Chlordane	57-74-9		0.7	30	27			0.07	3		mg/kg	-	-	0.0133	U
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.07	0.08	0.8	mg/kg	-	-	0.00159	U
MCP Polychlorinated Biphenyls																
	Aroclor 1016	12674-11-2		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1221	11104-28-2		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1232	11141-16-5		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1242	53469-21-9		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1248	12672-29-6		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1254	11097-69-1		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1260	11096-82-5		1	4	1.6					4	mg/kg	-	-	0.0326	U
	Aroclor 1262	37324-23-5		1	4	1.6						mg/kg	-	-	0.0326	U
	Aroclor 1268	11100-14-4		1	4	1.6						mg/kg	-	-	0.0326	U
	PCBs, Total	1336-36-3		1	4	1.6	2	2	0.1	0.1	4	mg/kg	-	-	0.0326	U
MCP Semivolatile Organics																
	Acenaphthene	83-32-9	0.5	4	3000	5000			4	5	69	mg/kg	-	-	0.45	
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	0.6	6	mg/kg	-	-	0.17	U
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.1	0.08	0.8	mg/kg	-	-	0.071	U
	Bis(2-chloroethyl)ether	111-44-4		0.7	0.7	4.7			0.1	0.07	0.7	mg/kg	-	-	0.071	U
	2-Chloronaphthalene	91-58-7		1000	10000				100	100	2500	mg/kg	-	-	0.17	U
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	10	90	mg/kg	-	-	0.17	U
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	20	30	mg/kg	-	-	0.17	U
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	0.1	1	mg/kg	-	-	0.071	U
	3,3'-Dichlorobenzidine	91-94-1		3	20	20			0.3	2	20	mg/kg	-	-	0.17	U
	2,4-Dinitrotoluene	121-14-2		0.7	10	36			0.1	1	7	mg/kg	-	-	0.071	U
	2,6-Dinitrotoluene	606-20-2		100	1000				10	100	500	mg/kg	-	-	0.17	U
	Azobenzene	103-33-3		50	500				5	50	375	mg/kg	-	-	0.17	U
	Fluoranthene	206-44-0	4	1000	3000	5000			1000	40	2500	mg/kg	-	-	6	
	4-Bromophenyl phenyl ether	101-55-3		100	1000				10	100	500	mg/kg	-	-	0.17	U
	Bis(2-chloroisopropyl)ether	108-60-1		0.7	0.7	74			0.1	0.07	0.7	mg/kg	-	-	0.071	U
	Bis(2-chloroethoxy)methane	111-91-1		500	5000				50	100	2500	mg/kg	-	-	0.18	U
	Hexachlorobutadiene	87-68-3		30	100	54			3	10	100	mg/kg	-	-	0.17	U
	Hexachloroethane	67-72-1		0.7	3	74			0.1	0.3	3	mg/kg	-	-	0.071	U
	Isophorone	78-59-1		100	1000				10	100	500	mg/kg	-	-	0.15	U
	Naphthalene	91-20-3	0.5	4	20	3000			4	5	20	mg/kg	-	-	1.4	
	Nitrobenzene	98-95-3		500	5000				50	100	2500	mg/kg	-	-	0.15	U
	Bis(2-ethylhexyl)phthalate	117-81-7		90	600	230			60	60	600	mg/kg	-	-	0.17	U
	Butyl benzyl phthalate	85-68-7		100	1000				10	100	500	mg/kg	-	-	0.17	U
	Di-n-butylphthalate	84-74-2		50	500				5	50	375	mg/kg	-	-	0.17	U
	Di-n-octylphthalate	117-84-0		1000	10000				100	100	2500	mg/kg	-	-	0.17	U

Table 2 - 2022 Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July 27, 2022

											LOCATION	GLC-WASHPUMPGRADING-062322-DC-VOC(7)		GLC-WASHPUMPGRADING-062322-DC-COMP	
											SAMPLING DATE	7/27/2022		7/27/2022	
											LAB SAMPLE ID	L2240165-01		L2240165-02	
											SAMPLE TYPE	SOIL		SOIL	
											REUSE/DISPOSAL FACILITY	MA Unlined Landfill		MA Unlined Landfill	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	Dudley <RCS-2	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	Diethyl phthalate	84-66-2		10	200	290			1	20	75	mg/kg	-	-	0.17	U
	Dimethyl phthalate	131-11-3		0.7	50	550			0.1	5	7	mg/kg	-	-	0.071	U
	Benzo(a)anthracene	56-55-3	2	7	40	160			7	20	40	mg/kg	-	-	3.7	
	Benzo(a)pyrene	50-32-8	2	2	7	16			2	7	7	mg/kg	-	-	4.6	
	Benzo(b)fluoranthene	205-99-2	2	7	40	160			7	20	40	mg/kg	-	-	4.8	
	Benzo(k)fluoranthene	207-08-9	1	70	400	1600			70	10	400	mg/kg	-	-	1.6	
	Chrysene	218-01-9	2	70	400	3400			70	20	400	mg/kg	-	-	3.7	
	Acenaphthylene	208-96-8	0.5	1	10	14			1	5	10	mg/kg	-	-	1.4	
	Anthracene	120-12-7	1	1000	3000	5000			1000	10	2500	mg/kg	-	-	2.2	
	Benzo(ghi)perylene	191-24-2	1	1000	3000	5000			1000	10	2500	mg/kg	-	-	2.7	
	Fluorene	86-73-7	1	1000	3000	5000			1000	10	2500	mg/kg	-	-	0.76	
	Phenanthrene	85-01-8	3	10	1000	3000			10	30	532.5	mg/kg	-	-	4.4	
	Dibenzo(a,h)anthracene	53-70-3	0.5	0.7	4	16			0.7	4	4	mg/kg	-	-	0.6	
	Indeno(1,2,3-cd)pyrene	193-39-5	1	7	40	160			7	10	40	mg/kg	-	-	3.1	
	Pyrene	129-00-0	4	1000	3000	5000			1000	40	2500	mg/kg	-	-	5.9	
	Aniline	62-53-3		1000	10000				100	100	2500	mg/kg	-	-	0.2	U
	4-Chloroaniline	106-47-8		1	3	3.3			0.1	0.3	3	mg/kg	-	-	0.17	U
	Dibenzofuran	132-64-9		100	1000				100	100	500	mg/kg	-	-	0.47	
	2-Methylnaphthalene	91-57-6	0.5	0.7	80	240			0.7	5	25	mg/kg	-	-	0.78	
	Acetophenone	98-86-2		1000	10000				100	100	2500	mg/kg	-	-	0.17	U
	2,4,6-Trichlorophenol	88-06-2		0.7	20	19			0.1	2	7	mg/kg	-	-	0.071	U
	2-Chlorophenol	95-57-8		0.7	100	310			0.1	100	7	mg/kg	-	-	0.071	U
	2,4-Dichlorophenol	120-83-2		0.7	40	40			0.1	4	7	mg/kg	-	-	0.071	U
	2,4-Dimethylphenol	105-67-9		0.7	100	1300			0.1	10	7	mg/kg	-	-	0.071	U
	2-Nitrophenol	88-75-5		100	1000				10	100	500	mg/kg	-	-	0.36	U
	4-Nitrophenol	100-02-7		100	1000				10	100	500	mg/kg	-	-	0.24	U
	2,4-Dinitrophenol	51-28-5		3	50	45			0.3	5	30	mg/kg	-	-	0.81	U
	Pentachlorophenol	87-86-5		3	10	13			0.3	1	10	mg/kg	-	-	0.34	U
	Phenol	108-95-2		1	20	16			0.1	2	10	mg/kg	-	-	0.17	U
	2-Methylphenol	95-48-7		500	5000				50	100	2500	mg/kg	-	-	0.17	U
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5		500	5000				50	100	2500	mg/kg	-	-	0.24	U
	2,4,5-Trichlorophenol	95-95-4		4	600	580			0.4	60	40	mg/kg	-	-	0.17	U
	Pyridine	110-86-1		500	5000				50	100		mg/kg	-	-	0.18	U
	Biphenyl	92-52-4		0.05	6				0.005	0.6		mg/kg	-	-	0.14	
	Total SVOCs						100	100				mg/kg	-	-	48.7	
MCP Total Metals																
	Antimony, Total	7440-36-0	1	20	30	16			20	10	30	mg/kg	-	-	2.04	U
	Arsenic, Total	7440-38-2	20	20	20	11	40	40	20	20	20	mg/kg	-	-	3.46	
	Barium, Total	7440-39-3	50	1000	3000	2100			1000	375	2500	mg/kg	-	-	22.9	
	Beryllium, Total	7440-41-7	0.4	90	200	10			90	4	200	mg/kg	-	-	0.204	U
	Cadmium, Total	7440-43-9	2	70	100	16	80	30	70	20	100	mg/kg	-	-	0.409	U
	Chromium, Total	7440-47-3	30	100	200	570	1000	1000	100	200	200	mg/kg	-	-	9.94	
	Lead, Total	7439-92-1	100	200	600	110	2000	1000	200	500	600	mg/kg	-	-	43.2	
	Mercury, Total	7439-97-6	0.3	20	30	16	10	10	20	3	30	mg/kg	-	-	0.139	
	Nickel, Total	7440-02-0	20	600	1000	350			600	150	1000	mg/kg	-	-	8	
	Selenium, Total	7782-49-2	0.5	400	700	390			400	5	700	mg/kg	-	-	2.04	U
	Silver, Total	7440-22-4	0.6	100	200	110			100	6	200	mg/kg	-	-	0.409	U
	Thallium, Total	7440-28-0	0.6	8	60	37			8	6	60	mg/kg	-	-	2.04	U
	Vanadium, Total	7440-62-2	30	400	700	530			400	225	700	mg/kg	-	-	18.9	
	Zinc, Total	7440-66-6	100	1000	3000	5000			1000	500	2500	mg/kg	-	-	53.4	
MCP Volatile Organics by EPA 5035																
	Methylene chloride	75-09-2		0.1	4	900			0.1	0.01	1	mg/kg	0.0052	U	-	-
	1,1-Dichloroethane	75-34-3		0.4	9	1300			0.1	0.04	4	mg/kg	0.001	U	-	-
	Chloroform	67-66-3		0.2	0.2	410			0.1	0.02	0.2	mg/kg	0.0016	U	-	-
	Carbon tetrachloride	56-23-5		5	5	220			0.5	0.5	5	mg/kg	0.001	U	-	-
	1,2-Dichloropropane	78-87-5		0.1	0.1	280			0.1	0.01	0.1	mg/kg	0.001	U	-	-
	Dibromochloromethane	124-48-1		0.005	0.03	340			0.0005	0.0005	0.03	mg/kg	0.001	U	-	-
	1,1,2-Trichloroethane	79-00-5		0.1	2	91			0.1	0.01	1	mg/kg	0.001	U	-	-
	Tetrachloroethene	127-18-4		1	10	370			0.1	0.1	10	mg/kg	0.00058		-	-
	Chlorobenzene	108-90-7		1	3	110			0.1	0.1	3	mg/kg	0.00052	U	-	-
	Trichlorofluoromethane	75-69-4		1000	10000				100	100	2500	mg/kg	0.0042	U	-	-
	1,2-Dichloroethane	107-06-2		0.1	0.1	310			0.1	0.01	0.1	mg/kg	0.001	U	-	-
	1,1,1-Trichloroethane	71-55-6		30	600	1400			3	3	225	mg/kg	0.00052	U	-	-
	Bromodichloromethane	75-27-4		0.1	0.1	460			0.1	0.01	0.1	mg/kg	0.00052	U	-	-
	trans-1,3-Dichloropropene	10061-02-6		0.01	0.4	140			0.001	0.001	0.1	mg/kg	0.001	U	-	-
	cis-1,3-Dichloropropene	10061-01-5		0.01	0.4	140			0.001	0.001	0.1	mg/kg	0.00052	U	-	-
	1,3-Dichloropropene, Total	542-75-6		0.01	0.4	140			0.001		0.1	mg/kg	0.00052	U	-	-
	1,1-Dichloropropene	563-58-6							0.01	0.001	0.1	mg/kg	0.00052	U	-	-
	Bromoform	75-25-2		0.1	1	800			0.1	0.01	1	mg/kg	0.0042	U	-	-
	1,1,2,2-Tetrachloroethane	79-34-5		0.005	0.02	19			0.0005	0.0005	0.02	mg/kg	0.00052	U	-	-
	Benzene	71-43-2		2	200	540			0.2	0.2	20	mg/kg	0.00052	U	-	-
	Toluene	108-88-3		30	1000	520			3	3	225	mg/kg	0.001	U	-	-
	Ethylbenzene	100-41-4		40	1000	230			4	4	300	mg/kg	0.001	U	-	-
	Chloromethane	74-87-3		100	1000				10	10	500	mg/kg	0.0042	U	-	-
	Bromomethane	74-83-9		0.5	0.5	32			0.1	0.05	0.5	mg/kg	0.0021	U	-	-
	Vinyl chloride	75-01-4		0.7	0.7	12			0.1	0.07	0.7	mg/kg	0.001	U	-	-
	Chloroethane	75-00-3		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	1,1-Dichloroethene	75-35-4		3	40	1600			0.3	0.3	30	mg/kg	0.001	U	-	-

Table 2 - 2022 Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July 27, 2022

											LOCATION	GLC-WASHPUMPGRADING-062322-DC-VOC(7)		GLC-WASHPUMPGRADING-062322-DC-COMP	
											SAMPLING DATE	7/27/2022		7/27/2022	
											LAB SAMPLE ID	L2240165-01		L2240165-02	
											SAMPLE TYPE	SOIL		SOIL	
											REUSE/DISPOSAL FACILITY	MA Unlined Landfill		MA Unlined Landfill	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	Dudley <RCS-2	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	trans-1,2-Dichloroethene	156-60-5		1	1	2500			0.1	0.1	1	mg/kg	0.0016	U	-	-
	Trichloroethene	79-01-6		0.3	0.3	810			0.1	0.03	0.3	mg/kg	0.00052	U	-	-
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	0.9	90	mg/kg	0.0021	U	-	-
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	0.3	30	mg/kg	0.0021	U	-	-
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	0.07	1	mg/kg	0.0021	U	-	-
	Methyl tert butyl ether	1634-04-4		0.1	100	500			0.1	0.01	1.9	mg/kg	0.0021	U	-	-
	p/m-Xylene	179601-23-1		100	100	270			10	10	100	mg/kg	0.0021	U	-	-
	o-Xylene	95-47-6		100	100	270			10	10	100	mg/kg	0.001	U	-	-
	Xylenes, Total	1330-20-7		100	100	270			10	10	100	mg/kg	0.001	U	-	-
	cis-1,2-Dichloroethene	156-59-2		0.1	0.1	500			0.1	0.01	0.1	mg/kg	0.001	U	-	-
	1,2-Dichloroethene, Total	540-59-0		0.3					0.1		0.4	mg/kg	0.001	U	-	-
	Dibromomethane	74-95-3		500	5000				50	50	2500	mg/kg	0.0021	U	-	-
	1,2,3-Trichloropropane	96-18-4		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	Styrene	100-42-5		3	4	630			0.3	0.3	4	mg/kg	0.001	U	-	-
	Dichlorodifluoromethane	75-71-8		1000	10000				100	100	2500	mg/kg	0.01	U	-	-
	Acetone	67-64-1		6	50	350			0.6	0.6	50	mg/kg	0.049		-	-
	Carbon disulfide	75-15-0		100	1000				10	10	500	mg/kg	0.01	U	-	-
	Methyl ethyl ketone	78-93-3		4	50	350			0.4	0.4	40	mg/kg	0.01	U	-	-
	Methyl isobutyl ketone	108-10-1		0.4	50	400			0.1	0.04	4	mg/kg	0.01	U	-	-
	2-Hexanone	591-78-6		100	1000				10	10	500	mg/kg	0.01	U	-	-
	Bromochloromethane	74-97-5							0.01			mg/kg	0.0021	U	-	-
	Tetrahydrofuran	109-99-9		500	5000				50	50	2500	mg/kg	0.0042	U	-	-
	2,2-Dichloropropane	594-20-7							0.01	0.01	0.1	mg/kg	0.0021	U	-	-
	1,2-Dibromoethane	106-93-4		0.1	0.1	0.33			0.1	0.01	0.1	mg/kg	0.001	U	-	-
	1,3-Dichloropropane	142-28-9		500	5000				50	50	2500	mg/kg	0.0021	U	-	-
	1,1,1,2-Tetrachloroethane	630-20-6		0.1	0.1	150			0.1	0.01	0.1	mg/kg	0.00052	U	-	-
	Bromobenzene	108-86-1		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	n-Butylbenzene	104-51-8							0.01		500	mg/kg	0.001	U	-	-
	sec-Butylbenzene	135-98-8							0.01		500	mg/kg	0.001	U	-	-
	tert-Butylbenzene	98-06-6		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	o-Chlorotoluene	95-49-8		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	p-Chlorotoluene	106-43-4							0.01	1	500	mg/kg	0.0021	U	-	-
	1,2-Dibromo-3-chloropropane	96-12-8		10	100				1	1	75	mg/kg	0.0031	U	-	-
	Hexachlorobutadiene	87-68-3		30	100	54			3	3	100	mg/kg	0.0042	U	-	-
	Isopropylbenzene	98-82-8		1000	10000				100	100	2500	mg/kg	0.001	U	-	-
	p-Isopropyltoluene	99-87-6		100	1000				10	10	500	mg/kg	0.001	U	-	-
	Naphthalene	91-20-3	0.5	4	20	3000			4	0.4	20	mg/kg	0.0042	U	-	-
	n-Propylbenzene	103-65-1		100	1000				10	10	500	mg/kg	0.001	U	-	-
	1,2,3-Trichlorobenzene	87-61-6							0.01			mg/kg	0.0021	U	-	-
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	0.2	6	mg/kg	0.0021	U	-	-
	1,3,5-Trimethylbenzene	108-67-8		10	100				1	1	75	mg/kg	0.0021	U	-	-
	1,2,4-Trimethylbenzene	95-63-6		1000	10000				100	100	2500	mg/kg	0.0021	U	-	-
	Diethyl ether	60-29-7		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	Diisopropyl Ether	108-20-3		100	1000				10	10	500	mg/kg	0.0021	U	-	-
	Ethyl-Tert-Butyl-Ether	637-92-3							0.01			mg/kg	0.0021	U	-	-
	Tertiary-Amyl Methyl Ether	994-05-8							0.01			mg/kg	0.0021	U	-	-
	1,4-Dioxane	123-91-1		0.2	6	450			0.1	0.02	2	mg/kg	0.083	U	-	-
	Total VOCs						10	4				mg/kg	0.04958		-	-
Petroleum Hydrocarbon Quantitation																
	TPH (C10-C36)	NONE		1000	3000	500	5000	2500	500	1000	2500	mg/kg	-	-	980	

Yellow shading indicates detected result is equal to or above one or more of the listed criteria, except for MA Background Level Natural soil.
Gray shading indicates nondetect detection limit is above one or more of the listed criteria, except for MA Background Level Natural soil.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effective April 25, 2014.
RCS-2-14: MCP 2014 RCS-2 Reportable Concentrations Criteria effective April 25, 2014.
BUD-S3/G3: MassDEP Proposed S3, GW-3 Beneficial Use Determination (BUD) Values Criteria per Draft Interim Guidance Document effective March 18, 2004.
MA-BLNS: Background Level Natural soil current as of 10/24/07
MA-LLAND: Lined Landfill Limits current as of August, 1997
MA-ULAND: UnLined Landfill Limits current as of August, 1997
TRC-SSSR-GLX: Site Specific Soil Reuse Criteria: Vehicle Maintenance Facility for GLX Project Criteria per client-provided Table X February 21, 2018.
MA-Dudley <RCS-2 Acceptance Criteria, Revised January 15, 2020.
Saugus: Acceptance Criteria for Aggregate Industries - Saugus Quarry, Table 1.

U - Not detected at the reported detection limit for the sample.

Table 2 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
November 3, 2022

											LOCATION	GLC-WASHSTLANDSCAPE-COMP		GLC-WASHSTLANDSCAPE-VOC(3)	
											SAMPLING DATE	11/3/2022		11/3/2022	
											LAB SAMPLE ID	L2261771-01		L2261771-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	Dudley <RCS-2	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
General Chemistry																
	Specific Conductance @ 25 C	NONE					8000	4000	2000	2000		umhos/cm	120		-	-
	Solids, Total	NONE										%	92.3		77.6	
	pH (H)	12408-02-5							5-9	5-9	2-12.5	SU	8.3		-	-
	Cyanide, Reactive	57-12-5							250	250	250	mg/kg	10	U	-	-
	Sulfide, Reactive	NONE							500	500	500	mg/kg	10	U	-	-
Ignitability of Solids																
	Ignitability	NONE							>140°	Not Ignitable (NI)	NI		NI		-	-
MCP Chlorinated Herbicides																
	MCPP	93-65-2							3.3			mg/kg	3.5	U	-	-
	MCPA	94-74-6		100	1000				10	100		mg/kg	3.5	U	-	-
	Dalapon	75-99-0		1000	10000				100	1000		mg/kg	0.035	U	-	-
	Dicamba	1918-00-9		500	5000				50	500		mg/kg	0.035	U	-	-
	Dichloroprop	120-36-5							0.08			mg/kg	0.035	U	-	-
	2,4-D	94-75-7		100	1000				10	100		mg/kg	0.035	U	-	-
	2,4-DB	94-82-6		100	1000				10	100		mg/kg	0.035	U	-	-
	2,4,5-T	93-76-5		100	1000				10	100		mg/kg	0.035	U	-	-
	2,4,5-TP (Silvex)	93-72-1		100	1000				10	100		mg/kg	0.035	U	-	-
MCP Organochlorine Pesticides																
	Delta-BHC	319-86-8		10	100				1	10		mg/kg	0.00167	U	-	-
	Lindane	58-89-9		0.003	0.5	0.46			0.0003	0.05		mg/kg	0.000557	U	-	-
	Alpha-BHC	319-84-6		50	500				5	50		mg/kg	0.000697	U	-	-
	Beta-BHC	319-85-7		10	100				1	10		mg/kg	0.00167	U	-	-
	Heptachlor	76-44-8		0.3	2	4.2			0.05	0.2		mg/kg	0.000836	U	-	-
	Aldrin	309-00-2		0.08	0.5	0.7			0.05	0.05		mg/kg	0.00167	U	-	-
	Heptachlor epoxide	1024-57-3		0.1	0.9	0.35			0.05	0.09		mg/kg	0.00314	U	-	-
	Endrin	72-20-8		10	20	7			1	2		mg/kg	0.000697	U	-	-
	Endrin ketone	53494-70-5							0.008			mg/kg	0.00167	U	-	-
	Dieldrin	60-57-1		0.08	0.5	1			0.05	0.05		mg/kg	0.00104	U	-	-
	4,4'-DDE	72-55-9		6	30	14			0.6	3		mg/kg	0.00167	U	-	-
	4,4'-DDD	72-54-8		8	40	14			0.8	4		mg/kg	0.00167	U	-	-
	4,4'-DDT	50-29-3		6	30	14			0.6	3		mg/kg	0.00314	U	-	-
	Endosulfan I	959-98-8		0.5	1	1.2			0.05	0.1		mg/kg	0.00167	U	-	-
	Endosulfan II	33213-65-9		0.5	1	1.2			0.05	0.1		mg/kg	0.00167	U	-	-
	Endosulfan sulfate	1031-07-8							0.008			mg/kg	0.000697	U	-	-
	Methoxychlor	72-43-5		200	400	140			20	40		mg/kg	0.00314	U	-	-
	Chlordane	57-74-9		0.7	30	27			0.07	3		mg/kg	0.0139	U	-	-
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.07	0.08	0.8	mg/kg	0.00167	U	-	-
MCP Polychlorinated Biphenyls																
	Aroclor 1016	12674-11-2		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1221	11104-28-2		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1232	11141-16-5		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1242	53469-21-9		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1248	12672-29-6		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1254	11097-69-1		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1260	11096-82-5		1	4	1.6					4	mg/kg	0.0345	U	-	-
	Aroclor 1262	37324-23-5		1	4	1.6						mg/kg	0.0345	U	-	-
	Aroclor 1268	11100-14-4		1	4	1.6						mg/kg	0.0345	U	-	-
	PCBs, Total	1336-36-3		1	4	1.6	2	2	0.1	0.1	4	mg/kg	0.0345	U	-	-
MCP Semivolatile Organics																
	Acenaphthene	83-32-9	0.5	4	3000	5000			4	5	69	mg/kg	0.14	U	-	-
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	0.6	6	mg/kg	0.18	U	-	-
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.1	0.08	0.8	mg/kg	0.074	U	-	-
	Bis(2-chloroethyl)ether	111-44-4		0.7	0.7	4.7			0.1	0.07	0.7	mg/kg	0.074	U	-	-
	2-Chloronaphthalene	91-58-7		1000	10000				100	100	2500	mg/kg	0.18	U	-	-
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	10	90	mg/kg	0.18	U	-	-
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	20	30	mg/kg	0.18	U	-	-
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	0.1	1	mg/kg	0.074	U	-	-
	3,3'-Dichlorobenzidine	91-94-1		3	20	20			0.3	2	20	mg/kg	0.18	U	-	-
	2,4-Dinitrotoluene	121-14-2		0.7	10	36			0.1	1	7	mg/kg	0.074	U	-	-
	2,6-Dinitrotoluene	606-20-2		100	1000				10	100	500	mg/kg	0.18	U	-	-
	Azobenzene	103-33-3							0.67	50	375	mg/kg	0.18	U	-	-
	Fluoranthene	206-44-0	4	1000	3000	5000			1000	40	2500	mg/kg	0.59		-	-
	4-Bromophenyl phenyl ether	101-55-3		100	1000				10	100	500	mg/kg	0.18	U	-	-
	Bis(2-chloroisopropyl)ether	108-60-1		0.7	0.7	74			0.1	0.07	0.7	mg/kg	0.074	U	-	-
	Bis(2-chloroethoxy)methane	111-91-1		500	5000				50	100	2500	mg/kg	0.19	U	-	-
	Hexachlorobutadiene	87-68-3		30	100	54			3	10	100	mg/kg	0.18	U	-	-
	Hexachloroethane	67-72-1		0.7	3	74			0.1	0.3	3	mg/kg	0.074	U	-	-
	Isophorone	78-59-1		100	1000				10	100	500	mg/kg	0.16	U	-	-
	Naphthalene	91-20-3	0.5	4	20	3000			4	5	20	mg/kg	0.18	U	-	-
	Nitrobenzene	98-95-3		500	5000				50	100	2500	mg/kg	0.16	U	-	-
	Bis(2-ethylhexyl)phthalate	117-81-7		90	600	230			60	60	600	mg/kg	0.18	U	-	-
	Butyl benzyl phthalate	85-68-7		100	1000				10	100	500	mg/kg	0.18	U	-	-
	Di-n-butylphthalate	84-74-2		50	500				5	50	375	mg/kg	0.18	U	-	-
	Di-n-octylphthalate	117-84-0		1000	10000				100	100	2500	mg/kg	0.18	U	-	-
	Diethyl phthalate	84-66-2		10	200	290			1	20	75	mg/kg	0.18	U	-	-
	Dimethyl phthalate	131-11-3		0.7	50	550			0.1	5	7	mg/kg	0.074	U	-	-

Table 2 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
November 3, 2022

											LOCATION	GLC-WASHSTLANDSCAPE-COMP		GLC-WASHSTLANDSCAPE-VOC(3)	
											SAMPLING DATE	11/3/2022		11/3/2022	
											LAB SAMPLE ID	L2261771-01		L2261771-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	Dudley <RCS-2	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	Benzo(a)anthracene	56-55-3	2	7	40	160			7	20	40	mg/kg	0.33		-	-
	Benzo(a)pyrene	50-32-8	2	2	7	16			2	7	7	mg/kg	0.47		-	-
	Benzo(b)fluoranthene	205-99-2	2	7	40	160			7	20	40	mg/kg	0.49		-	-
	Benzo(k)fluoranthene	207-08-9	1	70	400	1600			70	10	400	mg/kg	0.18		-	-
	Chrysene	218-01-9	2	70	400	3400			70	20	400	mg/kg	0.35		-	-
	Acenaphthylene	208-96-8	0.5	1	10	14			1	5	10	mg/kg	0.14	U	-	-
	Anthracene	120-12-7	1	1000	3000	5000			1000	10	2500	mg/kg	0.1		-	-
	Benzo(ghi)perylene	191-24-2	1	1000	3000	5000			1000	10	2500	mg/kg	0.29		-	-
	Fluorene	86-73-7	1	1000	3000	5000			1000	10	2500	mg/kg	0.18	U	-	-
	Phenanthrene	85-01-8	3	10	1000	3000			10	30	532.5	mg/kg	0.3		-	-
	Dibenzo(a,h)anthracene	53-70-3	0.5	0.7	4	16			0.7	4	4	mg/kg	0.074	U	-	-
	Indeno(1,2,3-cd)pyrene	193-39-5	1	7	40	160			7	10	40	mg/kg	0.33		-	-
	Pyrene	129-00-0	4	1000	3000	5000			1000	40	2500	mg/kg	0.6		-	-
	Aniline	62-53-3		1000	10000				100	100	2500	mg/kg	0.21	U	-	-
	4-Chloroaniline	106-47-8		1	3	3.3			0.1	0.3	3	mg/kg	0.18	U	-	-
	Dibenzofuran	132-64-9		100	1000				100	100	500	mg/kg	0.18	U	-	-
	2-Methylnaphthalene	91-57-6	0.5	0.7	80	240			0.7	5	25	mg/kg	0.074	U	-	-
	Acetophenone	98-86-2		1000	10000				100	100	2500	mg/kg	0.18	U	-	-
	2,4,6-Trichlorophenol	88-06-2		0.7	20	19			0.1	2	7	mg/kg	0.074	U	-	-
	2-Chlorophenol	95-57-8		0.7	100	310			0.1	100	7	mg/kg	0.074	U	-	-
	2,4-Dichlorophenol	120-83-2		0.7	40	40			0.1	4	7	mg/kg	0.074	U	-	-
	2,4-Dimethylphenol	105-67-9		0.7	100	1300			0.1	10	7	mg/kg	0.074	U	-	-
	2-Nitrophenol	88-75-5		100	1000				10	100	500	mg/kg	0.38	U	-	-
	4-Nitrophenol	100-02-7		100	1000				10	100	500	mg/kg	0.25	U	-	-
	2,4-Dinitrophenol	51-28-5		3	50	45			0.3	5	30	mg/kg	0.85	U	-	-
	Pentachlorophenol	87-86-5		3	10	13			0.3	1	10	mg/kg	0.35	U	-	-
	Phenol	108-95-2		1	20	16			0.1	2	10	mg/kg	0.18	U	-	-
	2-Methylphenol	95-48-7		500	5000				50	100	2500	mg/kg	0.18	U	-	-
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5		500	5000				50	100	2500	mg/kg	0.25	U	-	-
	2,4,5-Trichlorophenol	95-95-4		4	600	580			0.4	60	40	mg/kg	0.18	U	-	-
	Pyridine	110-86-1		500	5000				50	100		mg/kg	0.19	U	-	-
	Biphenyl	92-52-4		0.05	6				0.005	0.6		mg/kg	0.035	U	-	-
	Total SVOCs						100	100				mg/kg	4.03		-	-
MCP Total Metals																
	Antimony, Total	7440-36-0	1	20	30	16			20	10	30	mg/kg	2.05	U	-	-
	Arsenic, Total	7440-38-2	20	20	20	11	40	40	20	20	20	mg/kg	6.34		-	-
	Barium, Total	7440-39-3	50	1000	3000	2100			1000	375	2500	mg/kg	37.7		-	-
	Beryllium, Total	7440-41-7	0.4	90	200	10			90	4	200	mg/kg	0.272		-	-
	Cadmium, Total	7440-43-9	2	70	100	16	80	30	70	20	100	mg/kg	0.411	U	-	-
	Chromium, Total	7440-47-3	30	100	200	570	1000	1000	100	200	200	mg/kg	17.3		-	-
	Lead, Total	7439-92-1	100	200	600	110	2000	1000	200	500	600	mg/kg	78.4		-	-
	Mercury, Total	7439-97-6	0.3	20	30	16	10	10	20	3	30	mg/kg	0.137		-	-
	Nickel, Total	7440-02-0	20	600	1000	350			600	150	1000	mg/kg	14.2		-	-
	Selenium, Total	7782-49-2	0.5	400	700	390			400	5	700	mg/kg	2.05	U	-	-
	Silver, Total	7440-22-4	0.6	100	200	110			100	6	200	mg/kg	0.411	U	-	-
	Thallium, Total	7440-28-0	0.6	8	60	37			8	6	60	mg/kg	2.05	U	-	-
	Vanadium, Total	7440-62-2	30	400	700	530			400	225	700	mg/kg	30.3		-	-
	Zinc, Total	7440-66-6	100	1000	3000	5000			1000	500	2500	mg/kg	84.4		-	-
MCP Volatile Organics by EPA 5035																
	Methylene chloride	75-09-2		0.1	4	900			0.1	0.01	1	mg/kg	-	-	0.0055	U
	1,1-Dichloroethane	75-34-3		0.4	9	1300			0.1	0.04	4	mg/kg	-	-	0.0011	U
	Chloroform	67-66-3		0.2	0.2	410			0.1	0.02	0.2	mg/kg	-	-	0.0016	U
	Carbon tetrachloride	56-23-5		5	5	220			0.5	0.5	5	mg/kg	-	-	0.0011	U
	1,2-Dichloropropane	78-87-5		0.1	0.1	280			0.1	0.01	0.1	mg/kg	-	-	0.0011	U
	Dibromochloromethane	124-48-1		0.005	0.03	340			0.0005	0.0005	0.03	mg/kg	-	-	0.0011	U
	1,1,2-Trichloroethane	79-00-5		0.1	2	91			0.1	0.01	1	mg/kg	-	-	0.0011	U
	Tetrachloroethene	127-18-4		1	10	370			0.1	0.1	10	mg/kg	-	-	0.0045	
	Chlorobenzene	108-90-7		1	3	110			0.1	0.1	3	mg/kg	-	-	0.00055	U
	Trichlorofluoromethane	75-69-4		1000	10000				100	100	2500	mg/kg	-	-	0.0044	U
	1,2-Dichloroethane	107-06-2		0.1	0.1	310			0.1	0.01	0.1	mg/kg	-	-	0.0011	U
	1,1,1-Trichloroethane	71-55-6		30	600	1400			3	3	225	mg/kg	-	-	0.00055	U
	Bromodichloromethane	75-27-4		0.1	0.1	460			0.1	0.01	0.1	mg/kg	-	-	0.00055	U
	trans-1,3-Dichloropropene	10061-02-6		0.01	0.4	140			0.001	0.001	0.1	mg/kg	-	-	0.0011	U
	cis-1,3-Dichloropropene	10061-01-5		0.01	0.4	140			0.001	0.001	0.1	mg/kg	-	-	0.00055	U
	1,3-Dichloropropene, Total	542-75-6		0.01	0.4	140			0.001		0.1	mg/kg	-	-	0.00055	U
	1,1-Dichloropropene	563-58-6							0.01	0.001	0.1	mg/kg	-	-	0.00055	U
	Bromoform	75-25-2		0.1	1	800			0.1	0.01	1	mg/kg	-	-	0.0044	U
	1,1,2,2-Tetrachloroethane	79-34-5		0.005	0.02	19			0.0005	0.0005	0.02	mg/kg	-	-	0.00055	U
	Benzene	71-43-2		2	200	540			0.2	0.2	20	mg/kg	-	-	0.00055	U
	Toluene	108-88-3		30	1000	520			3	3	225	mg/kg	-	-	0.0011	U
	Ethylbenzene	100-41-4		40	1000	230			4	4	300	mg/kg	-	-	0.0011	U
	Chloromethane	74-87-3		100	1000				10	10	500	mg/kg	-	-	0.0044	U
	Bromomethane	74-83-9		0.5	0.5	32			0.1	0.05	0.5	mg/kg	-	-	0.0022	U
	Vinyl chloride	75-01-4		0.7	0.7	12			0.1	0.07	0.7	mg/kg	-	-	0.0011	U
	Chloroethane	75-00-3		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	1,1-Dichloroethene	75-35-4		3	40	1600			0.3	0.3	30	mg/kg	-	-	0.0011	U
	trans-1,2-Dichloroethene	156-60-5		1	1	2500			0.1	0.1	1	mg/kg	-	-	0.0016	U

Table 2 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
November 3, 2022

											LOCATION	GLC-WASHSTLANDSCAPE-COMP		GLC-WASHSTLANDSCAPE-VOC(3)	
											SAMPLING DATE	11/3/2022		11/3/2022	
											LAB SAMPLE ID	L2261771-01		L2261771-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	Dudley <RCS-2	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	Trichloroethene	79-01-6		0.3	0.3	810			0.1	0.03	0.3	mg/kg	-	-	0.00055	U
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	0.9	90	mg/kg	-	-	0.0022	U
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	0.3	30	mg/kg	-	-	0.0022	U
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	0.07	1	mg/kg	-	-	0.0022	U
	Methyl tert butyl ether	1634-04-4		0.1	100	500			0.1	0.01	1.9	mg/kg	-	-	0.0022	U
	p/m-Xylene	179601-23-1		100	100	270			10	10	100	mg/kg	-	-	0.0022	U
	o-Xylene	95-47-6		100	100	270			10	10	100	mg/kg	-	-	0.0011	U
	Xylenes, Total	1330-20-7		100	100	270			10	10	100	mg/kg	-	-	0.0011	U
	cis-1,2-Dichloroethene	156-59-2		0.1	0.1	500			0.1	0.01	0.1	mg/kg	-	-	0.0011	U
	1,2-Dichloroethene, Total	540-59-0		0.3					0.1		0.4	mg/kg	-	-	0.0011	U
	Dibromomethane	74-95-3		500	5000				50	50	2500	mg/kg	-	-	0.0022	U
	1,2,3-Trichloropropane	96-18-4		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	Styrene	100-42-5		3	4	630			0.3	0.3	4	mg/kg	-	-	0.0011	U
	Dichlorodifluoromethane	75-71-8		1000	10000				100	100	2500	mg/kg	-	-	0.011	U
	Acetone	67-64-1		6	50	350			0.6	0.6	50	mg/kg	-	-	0.028	U
	Carbon disulfide	75-15-0		100	1000				10	10	500	mg/kg	-	-	0.011	U
	Methyl ethyl ketone	78-93-3		4	50	350			0.4	0.4	40	mg/kg	-	-	0.011	U
	Methyl isobutyl ketone	108-10-1		0.4	50	400			0.1	0.04	4	mg/kg	-	-	0.011	U
	2-Hexanone	591-78-6		100	1000				10	10	500	mg/kg	-	-	0.011	U
	Bromochloromethane	74-97-5							0.01			mg/kg	-	-	0.0022	U
	Tetrahydrofuran	109-99-9		500	5000				50	50	2500	mg/kg	-	-	0.0044	U
	2,2-Dichloropropane	594-20-7							0.01	0.01	0.1	mg/kg	-	-	0.0022	U
	1,2-Dibromoethane	106-93-4		0.1	0.1	0.33			0.1	0.01	0.1	mg/kg	-	-	0.0011	U
	1,3-Dichloropropane	142-28-9		500	5000				50	50	2500	mg/kg	-	-	0.0022	U
	1,1,1,2-Tetrachloroethane	630-20-6		0.1	0.1	150			0.1	0.01	0.1	mg/kg	-	-	0.00055	U
	Bromobenzene	108-86-1		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	n-Butylbenzene	104-51-8							0.01		500	mg/kg	-	-	0.0011	U
	sec-Butylbenzene	135-98-8							0.01		500	mg/kg	-	-	0.0011	U
	tert-Butylbenzene	98-06-6		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	o-Chlorotoluene	95-49-8		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	p-Chlorotoluene	106-43-4							0.01	1	500	mg/kg	-	-	0.0022	U
	1,2-Dibromo-3-chloropropane	96-12-8		10	100				1	1	75	mg/kg	-	-	0.0033	U
	Hexachlorobutadiene	87-68-3		30	100	54			3	3	100	mg/kg	-	-	0.0044	U
	Isopropylbenzene	98-82-8		1000	10000				100	100	2500	mg/kg	-	-	0.0011	U
	p-Isopropyltoluene	99-87-6		100	1000				10	10	500	mg/kg	-	-	0.0011	U
	Naphthalene	91-20-3	0.5	4	20	3000			4	0.4	20	mg/kg	-	-	0.0044	U
	n-Propylbenzene	103-65-1		100	1000				10	10	500	mg/kg	-	-	0.0011	U
	1,2,3-Trichlorobenzene	87-61-6							0.01			mg/kg	-	-	0.0022	U
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	0.2	6	mg/kg	-	-	0.0022	U
	1,3,5-Trimethylbenzene	108-67-8		10	100				1	1	75	mg/kg	-	-	0.0022	U
	1,2,4-Trimethylbenzene	95-63-6		1000	10000				100	100	2500	mg/kg	-	-	0.0022	U
	Diethyl ether	60-29-7		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	Diisopropyl Ether	108-20-3		100	1000				10	10	500	mg/kg	-	-	0.0022	U
	Ethyl-Tert-Butyl-Ether	637-92-3							0.01			mg/kg	-	-	0.0022	U
	Tertiary-Amyl Methyl Ether	994-05-8							0.01			mg/kg	-	-	0.0022	U
	1,4-Dioxane	123-91-1		0.2	6	450			0.1	0.02	2	mg/kg	-	-	0.088	U
	Total VOCs						10	4				mg/kg	-	-	0.0045	
Petroleum Hydrocarbon Quantitation																
	TPH (C10-C36)	NONE		1000	3000	500	5000	2500	500	1000	2500	mg/kg	92.8		-	-

Gray shading indicates nondetect detection limit is above one or more of the listed criteria, except for MA Background Level Natural soil.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effective April 25, 2014.
RCS-2-14: MCP 2014 RCS-2 Reportable Concentrations Criteria effective April 25, 2014.
BUD-S3/G3: MassDEP Proposed S3, GW-3 Beneficial Use Determination (BUD) Values Criteria per Draft Interim Guidance Document effective March 18, 2004.
MA-BLNS: Background Level Natural soil current as of 10/24/07
MA-LLAND: Lined Landfill Limits current as of August, 1997
MA-ULAND: UnLined Landfill Limits current as of August, 1997
TRC-SSSR-GLX: Site Specific Soil Reuse Criteria: Vehicle Maintenance Facility for GLX Project Criteria per client-provided Table X February 21, 2018.
MA-Dudley <RCS-2 Acceptance Criteria, Revised January 15, 2020.
Saugus: Acceptance Criteria for Aggregate Industries - Saugus Quarry, Table 1.

U - Not detected at the reported detection limit for the sample.

Appendix D

Laboratory Testing Reports

ANALYTICAL REPORT

Lab Number:	L2301610
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	01/16/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301610
Report Date: 01/16/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2301610-01	045163-9KNOW-1	AIR	SOMERVILLE, MA	01/05/23 16:01	01/11/23
L2301610-02	045163-9KNOW-B	AIR	SOMERVILLE, MA	01/05/23 15:58	01/11/23

Project Name: TUFTS STREET **Lab Number:** L2301610

Project Number: 045163 **Report Date:** 01/16/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2301610
Project Number:	045163	**Report Date:**	01/16/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TUFTS STREET	**Lab Number:**	L2301610
Project Number:	045163	**Report Date:**	01/16/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on January 3, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 01/16/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301610
Report Date: 01/16/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301610
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301610-01
Client ID: 045163-9KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 16:01
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/12/23 23:00
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.278	0.020	--	1.89	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301610
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301610-02
Client ID: 045163-9KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 15:58
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/12/23 23:38
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.442	0.020	--	3.00	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301610
Report Date: 01/16/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 01/12/23 16:03

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1732887-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2301610

Report Date: 01/16/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1732887-3								
Vinyl chloride	83		-		70-130	-		
1,1-Dichloroethene	79		-		70-130	-		
trans-1,2-Dichloroethene	71		-		70-130	-		
1,1-Dichloroethane	83		-		70-130	-		
cis-1,2-Dichloroethene	79		-		70-130	-		
1,1,1-Trichloroethane	99		-		70-130	-		
Trichloroethene	102		-		70-130	-		
1,1,2-Trichloroethane	105		-		70-130	-		
Tetrachloroethene	103		-		70-130	-		
1,1,2,2-Tetrachloroethane	106		-		70-130	-		

Project Name: TUFTS STREET

Lab Number: L2301610

Project Number: 045163

Report Date: 01/16/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2301610-01	045163-9KNOW-1	02196	Flow 5	01/03/23	410531		-	-	-	Pass	3.0	3.2	6
L2301610-01	045163-9KNOW-1	2584	6.0L Can	01/03/23	410531	L2270890-08	Pass	-30.1	-4.7	-	-	-	-
L2301610-02	045163-9KNOW-B	0380	Flow 5	01/03/23	410531		-	-	-	Pass	3.0	3.2	6
L2301610-02	045163-9KNOW-B	2631	6.0L Can	01/03/23	410531	L2270890-08	Pass	-30.2	-6.3	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/18/22 02:44
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/18/22 02:44
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301610
Report Date: 01/16/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
NA	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2301610-01A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2301610-02A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name: TUFTS STREET **Lab Number:** L2301610

Project Number: 045163 **Report Date:** 01/16/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301610
Project Number:	045163	**Report Date:**	01/16/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301610
Project Number:	045163	**Report Date:**	01/16/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL — CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 1/11/23

ALPHA Job #: L2301610

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Drive
Woburn, MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com, csaledas@geiconsultats.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

■ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
■ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
■ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: See attached project specific compound list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH Subset non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
01610 - 01	045163-9KNOW-1	1/5/23	1601	1601	-30.58	-3.95	IAA	CWS	6L	2584	02196		X				
- 02	045163-9KNOW-B	1/5/23	1558	1558	-30.58	-6.01	IAA	CWS	6L	2631	0380		X				

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	1/11/23 1345	GEI FedEx	1/11/23 1230
	1/11/23 1230	AAL	1/11/23 12:30
AAL	1/11/23 1700		1/11/23 17:00
	1/11/23 20:00		1/11/23 2000

Serial_No:01162316:17

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

ANALYTICAL REPORT

Lab Number:	L2301620
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	01/17/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301620
Report Date: 01/17/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2301620-01	045163-9KNOW-SS1	SOIL_VAPOR	SOMERVILLE, MA	01/05/23 18:00	01/11/23
L2301620-02	045163-9KNOW-SS2	SOIL_VAPOR	SOMERVILLE, MA	01/05/23 18:02	01/11/23

Project Name: TUFTS STREET **Lab Number:** L2301620

Project Number: 045163 **Report Date:** 01/17/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2301620
Project Number:	045163	**Report Date:**	01/17/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301620
Report Date: 01/17/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on January 3, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

L2301620-01D: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen in order to perform a screen analysis. The pressurization resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

Sample Receipt

L2301620-02: The sample had an RPD for the pre- and post-flow controller calibration check (199% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was -7.2 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 01/17/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301620
Report Date: 01/17/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301620
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301620-01 D
Client ID: 045163-9KNOW-SS1
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 18:00
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 02:28
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.028	--	ND	0.072	--		1.417
1,1-Dichloroethene	ND	0.028	--	ND	0.112	--		1.417
trans-1,2-Dichloroethene	ND	0.028	--	ND	0.112	--		1.417
1,1-Dichloroethane	ND	0.028	--	ND	0.115	--		1.417
cis-1,2-Dichloroethene	ND	0.028	--	ND	0.112	--		1.417
1,1,1-Trichloroethane	ND	0.028	--	ND	0.154	--		1.417
Trichloroethene	ND	0.028	--	ND	0.152	--		1.417
1,1,2-Trichloroethane	ND	0.028	--	ND	0.154	--		1.417
Tetrachloroethene	0.721	0.028	--	4.89	0.192	--		1.417
1,1,2,2-Tetrachloroethane	ND	0.028	--	ND	0.194	--		1.417

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301620
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301620-02
Client ID: 045163-9KNOW-SS2
Sample Location: SOMERVILLE, MA

Date Collected: 01/05/23 18:02
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 03:08
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	1.08	0.020	--	7.32	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	99		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301620
Report Date: 01/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 01/16/23 16:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1733954-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2301620

Report Date: 01/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1733954-3								
Vinyl chloride	108		-		70-130	-		
1,1-Dichloroethene	100		-		70-130	-		
trans-1,2-Dichloroethene	94		-		70-130	-		
1,1-Dichloroethane	94		-		70-130	-		
cis-1,2-Dichloroethene	99		-		70-130	-		
1,1,1-Trichloroethane	96		-		70-130	-		
Trichloroethene	83		-		70-130	-		
1,1,2-Trichloroethane	90		-		70-130	-		
Tetrachloroethene	75		-		70-130	-		
1,1,2,2-Tetrachloroethane	88		-		70-130	-		

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2301620

Report Date: 01/17/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2301620-01	045163-9KNOW-SS1	01497	Flow 2	01/03/23	410531		-	-	-	Pass	36.7	38.0	3
L2301620-01	045163-9KNOW-SS1	3185	2.7L Can	01/03/23	410531	L2270890-06	Pass	-30.1	-16.0	-	-	-	-
L2301620-02	045163-9KNOW-SS2	02106	Flow 2	01/03/23	410531		-	-	-	Pass	36.5	0.1	199
L2301620-02	045163-9KNOW-SS2	2438	2.7L Can	01/03/23	410531	L2270890-06	Pass	-29.8	-7.2	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/18/22 01:27
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	92		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/18/22 01:27
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301620
Report Date: 01/17/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2301620-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2301620-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L2301620
Project Number:	045163	**Report Date:**	01/17/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301620
Project Number:	045163	**Report Date:**	01/17/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301620
Project Number:	045163	**Report Date:**	01/17/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 1/11/23

ALPHA Job #: L2301620

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Drive
Woburn, MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com, csaledas@geiconsultats.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

■ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
■ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
■ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐ See attached project specific compound list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH (subset non-petroleum HC's)	Fixed Gases	☐ Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
01620-01	045163-9KNOW-SS1	1/5/23	1700	1800	-29.84	-15.61	SV	CWS	2.7L	3185	01497	X					
-02	045163-9KNOW-SS2	1/5/23	1702	1802	-30.14	-7.29	SV	CWS	2.7L	2438	02106	X					

ANALYSIS

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	1/5/23 1845	GEI Field Room	1/11/23 1230
	1/11/23 1230		1/11/23 1230
	1/11/23 1700		1/11/23 17:00
	1/11/23 20:00		1/11/23 2000

1/11/23 20:40

Form No: 101-02 Rev: (25-Sep-15)

Serial_No:01172315:37

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

ANALYTICAL REPORT

Lab Number:	L2301612
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	01/16/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2301612-01	045163-13KNOW-1	AIR	SOMERVILLE, MA	01/10/23 12:26	01/11/23
L2301612-02	045163-13KNOW-B	AIR	SOMERVILLE, MA	01/10/23 12:15	01/11/23

Project Name: TUFTS STREET **Lab Number:** L2301612

Project Number: 045163 **Report Date:** 01/16/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2301612
Project Number:	045163	**Report Date:**	01/16/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301612
Report Date: 01/16/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on January 3, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

Sample Receipt

L2301612-02: The sample had an RPD for the pre- and post-flow controller calibration check (46% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was 0 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 01/16/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301612
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301612-01
Client ID: 045163-13KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 12:26
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/13/23 00:17
Analyst: RAY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.063	0.020	--	0.427	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

SAMPLE RESULTS

Lab ID: L2301612-02
Client ID: 045163-13KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 12:15
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/13/23 01:33
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.190	0.020	--	1.29	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301612
Report Date: 01/16/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 01/12/23 16:03

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1732887-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1732887-3								
Vinyl chloride	83		-		70-130	-		
1,1-Dichloroethene	79		-		70-130	-		
trans-1,2-Dichloroethene	71		-		70-130	-		
1,1-Dichloroethane	83		-		70-130	-		
cis-1,2-Dichloroethene	79		-		70-130	-		
1,1,1-Trichloroethane	99		-		70-130	-		
Trichloroethene	102		-		70-130	-		
1,1,2-Trichloroethane	105		-		70-130	-		
Tetrachloroethene	103		-		70-130	-		
1,1,2,2-Tetrachloroethane	106		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1732887-5 QC Sample: L2301612-01 Client ID: 045163-13KNOW-1						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.063	0.062	ppbV	2		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2301612

Report Date: 01/16/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2301612-01	045163-13KNOW-1	01481	Flow 5	01/03/23	410531		-	-	-	Pass	3.0	3.1	3
L2301612-01	045163-13KNOW-1	748	6.0L Can	01/03/23	410531	L2270890-08	Pass	-30.3	-6.2	-	-	-	-
L2301612-02	045163-13KNOW-B	01687	Flow 5	01/03/23	410531		-	-	-	Pass	3.0	4.8	46
L2301612-02	045163-13KNOW-B	3345	6.0L Can	01/03/23	410531	L2270890-08	Pass	-30.1	0.0	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/18/22 02:44
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/18/22 02:44
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/16/23

Air Canister Certification Results

Lab ID: L2270890-08
Client ID: CAN 1816 SHELF 38
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301612
Report Date: 01/16/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2301612-01A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2301612-02A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name: TUFTS STREET **Lab Number:** L2301612

Project Number: 045163 **Report Date:** 01/16/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301612
Project Number:	045163	**Report Date:**	01/16/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301612
Project Number:	045163	**Report Date:**	01/16/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 1/11/23

ALPHA Job #: L2301612

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Drive
Woburn, MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com, csaledas@geiconsultats.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

■ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
■ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
■ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: See attached project specific compound list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH (Subset Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
01612-01	045163-13KNOW-1	1/10/23	1226	1226	-30.39	-5.36	IAA	CWS	6L	748	01481	X					
-02	045163-13KNOW-B	1/10/23	1231	1215	-30.15	-0.00*	IAA	CWS	6L	3345	01687	X					*Please confirm canister pressure before running sample

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
	1/10/23 @ 1500	GEI Field Room	1/11/23 1230
	1/11/23 1230		1/11/23 12:30
	1/11/23 1700		1/11/23 17:00
	1/11/23 2040		1/11/23 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Serial_No:01162316:17

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

ANALYTICAL REPORT

Lab Number:	L2301614
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	01/17/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301614
Report Date: 01/17/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2301614-01	045163-13KNOW-SS1	SOIL_VAPOR	SOMERVILLE, MA	01/10/23 14:44	01/11/23
L2301614-02	045163-13KNOW-SS2	SOIL_VAPOR	SOMERVILLE, MA	01/10/23 14:45	01/11/23

Project Name: TUFTS STREET **Lab Number:** L2301614

Project Number: 045163 **Report Date:** 01/17/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2301614
Project Number:	045163	**Report Date:**	01/17/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301614
Report Date: 01/17/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on January 3, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 01/17/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301614
Report Date: 01/17/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301614
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301614-01
Client ID: 045163-13KNOW-SS1
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 14:44
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 03:48
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.072	0.020	--	0.488	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	101		60-140
bromochloromethane	103		60-140
chlorobenzene-d5	101		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301614
Report Date: 01/17/23

SAMPLE RESULTS

Lab ID: L2301614-02
Client ID: 045163-13KNOW-SS2
Sample Location: SOMERVILLE, MA

Date Collected: 01/10/23 14:45
Date Received: 01/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 01/17/23 04:27
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.777	0.020	--	5.27	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	97		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2301614
Report Date: 01/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 01/16/23 16:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1733954-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2301614

Report Date: 01/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1733954-3								
Vinyl chloride	108		-		70-130	-		
1,1-Dichloroethene	100		-		70-130	-		
trans-1,2-Dichloroethene	94		-		70-130	-		
1,1-Dichloroethane	94		-		70-130	-		
cis-1,2-Dichloroethene	99		-		70-130	-		
1,1,1-Trichloroethane	96		-		70-130	-		
Trichloroethene	83		-		70-130	-		
1,1,2-Trichloroethane	90		-		70-130	-		
Tetrachloroethene	75		-		70-130	-		
1,1,2,2-Tetrachloroethane	88		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301614
Report Date: 01/17/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1733954-5 QC Sample: L2301614-02 Client ID: 045163-13KNOW-SS2						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.777	0.802	ppbV	3		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS STREET

Lab Number: L2301614

Project Number: 045163

Report Date: 01/17/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2301614-01	045163-13KNOW-SS1	02128	Flow 2	01/03/23	410531		-	-	-	Pass	36.2	37.2	3
L2301614-01	045163-13KNOW-SS1	3718	2.7L Can	01/03/23	410531	L2270890-06	Pass	-30.1	-4.6	-	-	-	-
L2301614-02	045163-13KNOW-SS2	01448	Flow 2	01/03/23	410531		-	-	-	Pass	36.1	39.1	8
L2301614-02	045163-13KNOW-SS2	3179	2.7L Can	01/03/23	410531	L2270890-06	Pass	-30.2	-4.2	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/18/22 01:27
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2270890

Project Number: CANISTER QC BAT **Report Date:** 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	92		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/18/22 01:27
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2270890
Report Date: 01/17/23

Air Canister Certification Results

Lab ID: L2270890-06
Client ID: CAN 2866 SHELF 22
Sample Location:

Date Collected: 12/16/22 11:00
Date Received: 12/16/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2301614
Report Date: 01/17/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2301614-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2301614-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name: TUFTS STREET **Lab Number:** L2301614

Project Number: 045163 **Report Date:** 01/17/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301614
Project Number:	045163	**Report Date:**	01/17/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301614
Project Number:	045163	**Report Date:**	01/17/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2301614
Project Number:	045163	**Report Date:**	01/17/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 1/11/23

ALPHA Job #: L2301614

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Drive
Woburn, MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com, csaledas@geiconsultats.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

■ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
■ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
■ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☑ See attached project specific compound list

All Columns Below Must Be Filled Out

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subject Non-Petroleum VOCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
01614 - 01	045163-13KNOW-SS1	1/10/23	1344	1444	-28.88	-4.38	SV	CWS	2.7L	3718	02128	X						
- 02	045163-13KNOW-SS2	1/10/23	1345	1445	-29.53	-3.99	SV	CWS	2.7L	3179	01448	X						

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	1/11/23 @ 1500	GEI Field Room	1/11/23 1230
	1/11/23 1230	AAL	1/11/23 12:30
Baker 1/11/23	1/11/23 1700		1/11/23 17:00
	1/11/23 2000		1/11/23 2000

1/11/23 20:40
1/11/23 2045

Serial_No:01172315:36

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

ANALYTICAL REPORT

Lab Number:	L2309056
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	03/01/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2309056-01	045163-105WASH-SV2	SOIL_VAPOR	SOMERVILLE, MA	02/15/23 11:45	02/20/23

Project Name: TUFTS ST. **Lab Number:** L2309056

Project Number: 045163 **Report Date:** 03/01/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2309056
Project Number:	045163	**Report Date:**	03/01/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TUFTS ST.	**Lab Number:**	L2309056
Project Number:	045163	**Report Date:**	03/01/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on February 13, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

Sample Receipt

L2309056-01: The sample had an RPD for the pre- and post-flow controller calibration check (25% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was -9.4 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 03/01/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2309056-01
Client ID: 045163-105WASH-SV2
Sample Location: SOMERVILLE, MA

Date Collected: 02/15/23 11:45
Date Received: 02/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/01/23 06:10
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.097	0.020	--	0.658	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 02/28/23 15:51

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1749608-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1749608-3								
Vinyl chloride	83		-		70-130	-		
1,1-Dichloroethene	97		-		70-130	-		
trans-1,2-Dichloroethene	93		-		70-130	-		
1,1-Dichloroethane	98		-		70-130	-		
cis-1,2-Dichloroethene	95		-		70-130	-		
1,1,1-Trichloroethane	118		-		70-130	-		
Trichloroethene	101		-		70-130	-		
1,1,2-Trichloroethane	112		-		70-130	-		
Tetrachloroethene	101		-		70-130	-		
1,1,2,2-Tetrachloroethane	95		-		70-130	-		

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2309056

Report Date: 03/01/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2309056-01	045163-105WASH-SV2	02145	Flow 2	02/13/23	414133		-	-	-	Pass	36.4	28.3	25
L2309056-01	045163-105WASH-SV2	2031	2.7L Can	02/13/23	414133	L2305369-06	Pass	-29.9	-9.4	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305369
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/01/23 22:00
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2305369

Project Number: CANISTER QC BAT **Report Date:** 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2305369

Project Number: CANISTER QC BAT **Report Date:** 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305369
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305369
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305369
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/01/23 22:00
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305369
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305369
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305369-06
Client ID: CAN 1736 SHELF 16
Sample Location:

Date Collected: 02/01/23 10:00
Date Received: 02/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	102		60-140
chlorobenzene-d5	101		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309056
Report Date: 03/01/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2309056-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name: TUFTS ST. **Lab Number:** L2309056

Project Number: 045163 **Report Date:** 03/01/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2309056
Project Number:	045163	**Report Date:**	03/01/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2309056
Project Number:	045163	**Report Date:**	03/01/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 2/20/23

ALPHA Job #: L2309056

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr.
Woburn, MA 01801
Phone: 781-721-4000
Fax: —
Email: labdata@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville MA
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒ See attached analyte list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH	☐ Fixed Gases (Subject Non-petroleum HCs)	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
09056-01	045163-105wash-SV2	2/15/23	1030	1145	-30.45	-9.81	SV	CWS	2.7L	2031	02145	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
R. Manley 2/20/23 1512			
Chris Sobelay Field Room	2/15/23 @ 1230	GEI Field Room	
	2/20/23 1758		2/20/23 1758
	2/20/23 1758		2/20/23 1253
DHL AAL	2/20/23 1700		2/20/23 1700

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Form No: 101-02 Rev: (25-Sep-15)

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:03012315:51

ANALYTICAL REPORT

Lab Number:	L2309058
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	03/01/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2309058-01	045163-105WASH-B1	AIR	SOMERVILLE, MA	02/15/23 10:30	02/20/23
L2309058-02	045163-105WASH-FF1	AIR	SOMERVILLE, MA	02/15/23 10:10	02/20/23

Project Name: TUFTS ST. **Lab Number:** L2309058

Project Number: 045163 **Report Date:** 03/01/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2309058
Project Number:	045163	**Report Date:**	03/01/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2309058
Report Date: 03/01/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on February 13, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 03/01/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2309058-01
Client ID: 045163-105WASH-B1
Sample Location: SOMERVILLE, MA

Date Collected: 02/15/23 10:30
Date Received: 02/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 02/28/23 21:51
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.081	0.020	--	0.549	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2309058-02
Client ID: 045163-105WASH-FF1
Sample Location: SOMERVILLE, MA

Date Collected: 02/15/23 10:10
Date Received: 02/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 02/28/23 22:30
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	0.034	0.020	--	0.138	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.203	0.020	--	1.38	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2309058
Report Date: 03/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 02/28/23 15:51

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1749608-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2309058

Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1749608-3								
Vinyl chloride	83		-		70-130	-		
1,1-Dichloroethene	97		-		70-130	-		
trans-1,2-Dichloroethene	93		-		70-130	-		
1,1-Dichloroethane	98		-		70-130	-		
cis-1,2-Dichloroethene	95		-		70-130	-		
1,1,1-Trichloroethane	118		-		70-130	-		
Trichloroethene	101		-		70-130	-		
1,1,2-Trichloroethane	112		-		70-130	-		
Tetrachloroethene	101		-		70-130	-		
1,1,2,2-Tetrachloroethane	95		-		70-130	-		

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2309058

Report Date: 03/01/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2309058-01	045163-105WASH-B1	02248	Flow 4	02/13/23	414133		-	-	-	Pass	3.0	3.5	15
L2309058-01	045163-105WASH-B1	3083	6.0L Can	02/13/23	414133	L2306405-08	Pass	-29.9	-6.3	-	-	-	-
L2309058-02	045163-105WASH-FF1	01129	Flow 5	02/13/23	414133		-	-	-	Pass	3.0	3.5	15
L2309058-02	045163-105WASH-FF1	2881	6.0L Can	02/13/23	414133	L2305988-04	Pass	-29.7	-3.7	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/05/23 20:30
Analyst: NFL

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/05/23 20:30
Analyst: NFL

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2305988
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2305988-04
Client ID: CAN 2844 SHELF 67
Sample Location:

Date Collected: 02/02/23 18:00
Date Received: 02/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	99		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/07/23 23:44
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/07/23 23:44
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2306405
Report Date: 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2306405

Project Number: CANISTER QC BAT **Report Date:** 03/01/23

Air Canister Certification Results

Lab ID: L2306405-08
Client ID: CAN 2561 SHELF 31
Sample Location:

Date Collected: 02/07/23 11:00
Date Received: 02/07/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	98		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2309058
Report Date: 03/01/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2309058-01A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2309058-02A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2309058
Project Number:	045163	**Report Date:**	03/01/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2309058
Project Number:	045163	**Report Date:**	03/01/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2309058
Project Number:	045163	**Report Date:**	03/01/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2309058
Project Number:	045163	**Report Date:**	03/01/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 2/20/23

ALPHA Job #: L2309058

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr.
Woburn, MA 01801
Phone: 781-721-4000
Fax: —
Email: labdata@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joe Raman
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: See attached analyte list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH Subset Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
09058-01	045163-105wash-B1	2/15/23	1030	1030	-30.08	-6.97	IA	CWS	6L	3083	02248	X					
02	045163-105wash-FF1	2/15/23	1035	1010	-29.98	-3.49	IA	CWS	6L	2881	01129	X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
R. Manley 2/20/23 1930			
Field Room	2/15/23 @ 1230	GEI Field Room	
	2/20/23 12:52		
Pat Quinn AAL	2/20/23 1700	Pat Quinn AAL	2/20/23 12:53
			2/20/23 1700
			2/20/23 1930

Form No: 101-02 Rev: (25-Sep-15)

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:03012315:25

ANALYTICAL REPORT

Lab Number:	L2312382
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	03/15/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2312382-01	045163-10MORT-SV1	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 13:00	03/09/23
L2312382-02	045163-10MORT-SV2	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 13:01	03/09/23
L2312382-03	045163-10MORT-SV3	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 12:51	03/09/23
L2312382-04	045163-10MORT-SV4	SOIL_VAPOR	SOMERVILLE, MA	03/08/23 13:03	03/09/23

Project Name: TUFTS ST. **Lab Number:** L2312382

Project Number: 045163 **Report Date:** 03/15/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on February 28, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 03/15/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-01
Client ID: 045163-10MORT-SV1
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 13:00
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 02:38
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	0.021	0.020	--	0.083	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.156	0.020	--	1.06	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-02
Client ID: 045163-10MORT-SV2
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 13:01
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 03:18
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	0.029	0.020	--	0.115	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	0.048	0.020	--	0.258	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.194	0.020	--	1.32	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-03
Client ID: 045163-10MORT-SV3
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 12:51
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 03:56
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.027	0.020	--	0.183	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

SAMPLE RESULTS

Lab ID: L2312382-04
Client ID: 045163-10MORT-SV4
Sample Location: SOMERVILLE, MA

Date Collected: 03/08/23 13:03
Date Received: 03/09/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/14/23 05:15
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.043	0.020	--	0.292	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2312382
Report Date: 03/15/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 03/13/23 16:13

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1754197-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1754197-3								
Vinyl chloride	74		-		70-130	-		
1,1-Dichloroethene	75		-		70-130	-		
trans-1,2-Dichloroethene	82		-		70-130	-		
1,1-Dichloroethane	84		-		70-130	-		
cis-1,2-Dichloroethene	85		-		70-130	-		
1,1,1-Trichloroethane	72		-		70-130	-		
Trichloroethene	77		-		70-130	-		
1,1,2-Trichloroethane	73		-		70-130	-		
Tetrachloroethene	93		-		70-130	-		
1,1,2,2-Tetrachloroethane	90		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1754197-5 QC Sample: L2312382-03 Client ID: 045163-10MORT-SV3						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.027	0.028	ppbV	4		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS ST.

Lab Number: L2312382

Project Number: 045163

Report Date: 03/15/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2312382-01	045163-10MORT-SV1	01521	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	33.4	7
L2312382-01	045163-10MORT-SV1	2009	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.6	-5.1	-	-	-	-
L2312382-02	045163-10MORT-SV2	01922	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	36.1	0
L2312382-02	045163-10MORT-SV2	2176	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.4	-1.5	-	-	-	-
L2312382-03	045163-10MORT-SV3	0193	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	35.9	0
L2312382-03	045163-10MORT-SV3	551	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.6	0.0	-	-	-	-
L2312382-04	045163-10MORT-SV4	01027	Flow 2	02/28/23	415835		-	-	-	Pass	36.0	37.2	3
L2312382-04	045163-10MORT-SV4	497	2.7L Can	02/28/23	415835	L2308654-01	Pass	-29.7	-1.9	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2308654
Report Date: 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/18/23 19:23
Analyst: NFL

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2308654
Report Date: 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	103		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308654
Report Date: 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/18/23 19:23
Analyst: NFL

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308654

Project Number: CANISTER QC BAT **Report Date:** 03/15/23

Air Canister Certification Results

Lab ID: L2308654-01
Client ID: CAN 2018 SHELF 8
Sample Location:

Date Collected: 02/16/23 18:00
Date Received: 02/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	104		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2312382
Report Date: 03/15/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2312382-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2312382-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2312382-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2312382-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2312382
Project Number:	045163	**Report Date:**	03/15/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

CHAIN OF CUSTODY PAGE ____ OF ____

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/9/23

ALPHA Job #: L2312382

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr
Phone: 781-721-4000
Fax: —
Email: labdata@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville MA
Project #: 045163
Project Manager: Chris Coner
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 5 day Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: 045163

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒ see attached analyte list

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15 ☒	TO-15 SIM	APH Subject Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
L2382-01	045163-10Mar-SV1	3/8/23	1200	1300	-30.57	-6.73	SV	CWS/DSM	2.7L	2009	01521	X						☒ see attached list
-02	045163-10Mar-SV2	3/8/23	1201	1301	-30.41	-3.20	SV	CWS/DSM	2.7L	2176	01422	X						
-03	045163-10Mar-SV3	3/8/23	1202	1251	-30.52	-1.37	SV	CWS/DSM	2.7L	551	0193	X						
-04	045163-10Mar-SV4	3/8/23	1203	1303	-30.32	-3.51	SV	CWS/DSM	2.7L	497	01027	X						

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
Dawn Hill	3/8/23 1500	GEI Field Room	3/8/23 15:00
GEI Field Room	3/9/23 1220	Molly Forrest	3/9/23 1220
Molly Forrest	3/9/23 1220	DHL AAC	3/9/23 1220
DHL AAC	3/9/23 1445		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Rec'd 3/9/23 1500

3/9/23 16:10

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:03152317:34

ANALYTICAL REPORT

Lab Number:	L2315303
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	04/03/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2315303
Report Date: 04/03/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2315303-01	045163-9KNOW-1	AIR	SOMERVILLE MA	03/22/23 15:56	03/23/23
L2315303-02	045163-9KNOW-B	AIR	SOMERVILLE MA	03/22/23 16:05	03/23/23
L2315303-03	045163-9KNOW-SS1	SOIL_VAPOR	SOMERVILLE MA	03/22/23 18:30	03/23/23
L2315303-04	045163-9KNOW-SS2	SOIL_VAPOR	SOMERVILLE MA	03/22/23 17:19	03/23/23

Project Name: TUFTS STREET **Lab Number:** L2315303

Project Number: 045163 **Report Date:** 04/03/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2315303
Project Number:	045163	**Report Date:**	04/03/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on March 3, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

Sample Receipt

L2315303-04: The sample had an RPD for the pre- and post-flow controller calibration check (39% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was 0.0 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 04/03/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2315303
Report Date: 04/03/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-01
Client ID: 045163-9KNOW-1
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 15:56
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 16:46
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.231	0.020	--	1.57	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-02
Client ID: 045163-9KNOW-B
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 16:05
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 17:24
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.285	0.020	--	1.93	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-03
Client ID: 045163-9KNOW-SS1
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 18:30
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 18:02
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	0.035	0.020	--	0.188	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	1.03	0.020	--	6.98	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

SAMPLE RESULTS

Lab ID: L2315303-04
Client ID: 045163-9KNOW-SS2
Sample Location: SOMERVILLE MA

Date Collected: 03/22/23 17:19
Date Received: 03/23/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 18:41
Analyst: TJS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	1.92	0.020	--	13.0	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2315303
Report Date: 04/03/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 03/31/23 15:29

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1761408-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2315303

Report Date: 04/03/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1761408-3								
Vinyl chloride	91		-		70-130	-		
1,1-Dichloroethene	106		-		70-130	-		
trans-1,2-Dichloroethene	103		-		70-130	-		
1,1-Dichloroethane	102		-		70-130	-		
cis-1,2-Dichloroethene	103		-		70-130	-		
1,1,1-Trichloroethane	126		-		70-130	-		
Trichloroethene	111		-		70-130	-		
1,1,2-Trichloroethane	120		-		70-130	-		
Tetrachloroethene	105		-		70-130	-		
1,1,2,2-Tetrachloroethane	108		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2315303
Report Date: 04/03/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1761408-5 QC Sample: L2315303-04 Client ID: 045163-9KNOW-SS2						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	1.92	1.89	ppbV	2		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2315303

Report Date: 04/03/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2315303-01	045163-9KNOW-1	02212	Flow 5	03/03/23	416030		-	-	-	Pass	3.0	2.9	3
L2315303-01	045163-9KNOW-1	2970	6.0L Can	03/03/23	416030	L2310584-10	Pass	-29.0	-8.2	-	-	-	-
L2315303-02	045163-9KNOW-B	01640	Flow 5	03/03/23	416030		-	-	-	Pass	3.0	3.1	3
L2315303-02	045163-9KNOW-B	2890	6.0L Can	03/03/23	416030	L2310584-10	Pass	-29.0	-6.8	-	-	-	-
L2315303-03	045163-9KNOW-SS1	0199	Flow 2	03/03/23	416030		-	-	-	Pass	36.0	34.3	5
L2315303-03	045163-9KNOW-SS1	2730	2.7L Can	03/03/23	416030	L2310584-06	Pass	-29.4	-8.1	-	-	-	-
L2315303-04	045163-9KNOW-SS2	01443	Flow 2	03/03/23	416030		-	-	-	Pass	36.0	53.2	39
L2315303-04	045163-9KNOW-SS2	3903	2.7L Can	03/03/23	416030	L2310584-06	Pass	-29.2	0.0	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/01/23 22:08
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	96		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/01/23 22:08
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-06
Client ID: CAN 2430 SHELF 14
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	89		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	92		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/02/23 00:46
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	95		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/02/23 00:46
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2310584

Project Number: CANISTER QC BAT **Report Date:** 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2310584
Report Date: 04/03/23

Air Canister Certification Results

Lab ID: L2310584-10
Client ID: CAN 2048 SHELF 48
Sample Location:

Date Collected: 03/01/23 11:00
Date Received: 03/01/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	90		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2315303
Report Date: 04/03/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315303-01A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2315303-02A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2315303-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2315303-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L2315303
Project Number:	045163	**Report Date:**	04/03/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2315303
Project Number:	045163	**Report Date:**	04/03/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2315303
Project Number:	045163	**Report Date:**	04/03/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2315303
Project Number:	045163	**Report Date:**	04/03/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/23/23

ALPHA Job #: L2315303

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr.
Woburn MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville MA
Project #: 045163
Project Manager: C. Coner
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
L5303-01	045163-9know-1	3/22/23	15:56	15:56	-30.27	-9.64	IA	JKF	6L	2970	02212	X					see attached list of analytes
02	045163-9know-B	3/22/23	16:05	16:05	-30.65	-8.60	IA	JKF	6L	2890	01640	X					see attached list of analytes
03	045163-9know-SS1	3/22/23	16:52	18:30	-30.62	-9.26	SV	JKF	2.7L	2730	0499	X					see attached list of analytes
04	045163-9know-SS2	3/22/23	16:43	17:19	-30.09	-1.00	SV	JKF	2.7L	3903	01443	X					see attached list of analytes

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
Field Blow	3/22/23 19:30	GEI Field Room	3/22/23 19:30
	3/23/23 12:06		3/23/23 12:06
	3/23/23 1608		3/23/23 1206
	3/23/23 1628		3/23/23 1628

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

3/23/23 2100

Form No. 101-02 Rev. (25-Sep-15)

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:04032317:04

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 14, 2023

Chris Coner
GEI Consultants, Inc.- Woburn
400 Unicorn Park Drive
Woburn, MA 01801

Project Location: Somerville,MA
Client Job Number:
Project Number: 045163
Laboratory Work Order Number: 23D0007

Enclosed are results of analyses for samples as received by the laboratory on March 31, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

GEI Consultants, Inc.- Woburn
400 Unicorn Park Drive
Woburn, MA 01801
ATTN: Chris Coner

REPORT DATE: 4/14/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 045163

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23D0007

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Somerville,MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
045163-10Mort-SV1	23D0007-01	Soil Gas		EPA TO-15	
045163-10Mort-SV2	23D0007-02	Soil Gas		EPA TO-15	
045163-10Mort-SV3	23D0007-03	Soil Gas		EPA TO-15	
045163-10Mort-SV4	23D0007-04	Soil Gas		EPA TO-15	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV1
Sample ID: 23D0007-01
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:54

Sample Description/Location:
Sub Description/Location:
Canister ID: 2383
Canister Size: 3 liter
Flow Controller ID: 4402
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -4.5
Receipt Vacuum(in Hg): -2.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 21:55	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/10/23 21:55	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/10/23 21:55	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 21:55	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 21:55	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/10/23 21:55	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/10/23 21:55	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.4	70-130	4/10/23 21:55

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV2
Sample ID: 23D0007-02
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:55

Sample Description/Location:
Sub Description/Location:
Canister ID: 2742
Canister Size: 3 liter
Flow Controller ID: 4403
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -2.2
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/10/23 22:37	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/10/23 22:37	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/10/23 22:37	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 22:37	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/10/23 22:37	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/10/23 22:37	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/10/23 22:37	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.8	70-130	4/10/23 22:37

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV3
Sample ID: 23D0007-03
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:56

Sample Description/Location:
Sub Description/Location:
Canister ID: 2750
Canister Size: 3 liter
Flow Controller ID: 4446
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -3.5
Receipt Vacuum(in Hg): -2.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:01	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/11/23 0:01	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/11/23 0:01	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:01	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:01	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/11/23 0:01	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/11/23 0:01	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.0	70-130	4/11/23 0:01

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ANALYTICAL RESULTS

Project Location: Somerville,MA
Date Received: 3/31/2023
Field Sample #: 045163-10Mort-SV4
Sample ID: 23D0007-04
Sample Matrix: Soil Gas
Sampled: 3/31/2023 10:57

Sample Description/Location:
Sub Description/Location:
Canister ID: 2759
Canister Size: 3 liter
Flow Controller ID: 4417
Sample Type: 1 hr

Work Order: 23D0007
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -2.4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
1,1-Dichloroethane	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	4/11/23 0:42	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	4/11/23 0:42	CMR
Tetrachloroethylene	ND	0.10		ND	0.68	2	4/11/23 0:42	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:42	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	4/11/23 0:42	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	4/11/23 0:42	CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	4/11/23 0:42	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.7	70-130	4/11/23 0:42

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Sample Extraction Data

Prep Method: TO-15 Prep **Analytical Method: EP**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
23D0007-01 [045163-10Mort-SV1]	B336828	1.5	1	N/A	1000	400	300	04/10/23
23D0007-02 [045163-10Mort-SV2]	B336828	1.5	1	N/A	1000	400	300	04/10/23
23D0007-03 [045163-10Mort-SV3]	B336828	1.5	1	N/A	1000	400	300	04/10/23
23D0007-04 [045163-10Mort-SV4]	B336828	1.5	1	N/A	1000	400	300	04/10/23

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B336828 - TO-15 Prep											
Blank (B336828-BLK1)					Prepared & Analyzed: 04/10/23						
1,1-Dichloroethane	ND	0.035									
1,2-Dichloroethane	ND	0.035									
cis-1,2-Dichloroethylene	ND	0.035									
trans-1,2-Dichloroethylene	ND	0.035									
1,1,2,2-Tetrachloroethane	ND	0.035									
Tetrachloroethylene	ND	0.035									
1,1,1-Trichloroethane	ND	0.035									
1,1,2-Trichloroethane	ND	0.035									
Vinyl Chloride	ND	0.035									
Surrogate: 4-Bromofluorobenzene (1)	*7.52*				*8.00*		*94.0*	*70-130*			
LCS (B336828-BS1)					Prepared & Analyzed: 04/10/23						
1,1-Dichloroethane	4.83				5.00		96.6	70-130			
1,2-Dichloroethane	4.96				5.00		99.1	70-130			
cis-1,2-Dichloroethylene	5.06				5.00		101	70-130			
trans-1,2-Dichloroethylene	5.05				5.00		101	70-130			
1,1,2,2-Tetrachloroethane	4.78				5.00		95.6	70-130			
Tetrachloroethylene	4.48				5.00		89.5	70-130			
1,1,1-Trichloroethane	5.00				5.00		100	70-130			
1,1,2-Trichloroethane	4.97				5.00		99.3	70-130			
Vinyl Chloride	3.80				5.00		75.9	70-130			
Surrogate: 4-Bromofluorobenzene (1)	*7.69*				*8.00*		*96.1*	*70-130*			
Duplicate (B336828-DUP1)			**Source: 23D0007-02**		Prepared & Analyzed: 04/10/23						
1,1-Dichloroethane	ND	0.10	ND	0.40		ND				25	
1,2-Dichloroethane	ND	0.10	ND	0.40		ND				25	
cis-1,2-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
trans-1,2-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.69		ND				25	
Tetrachloroethylene	ND	0.10	ND	0.68		ND				25	
1,1,1-Trichloroethane	ND	0.10	ND	0.55		ND				25	
1,1,2-Trichloroethane	ND	0.10	ND	0.55		ND				25	
Vinyl Chloride	ND	0.10	ND	0.26		ND				25	
Surrogate: 4-Bromofluorobenzene (1)	*7.41*				*8.00*		*92.6*	*70-130*			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
045163-10Mort-SV1 (23D0007-01)			Lab File ID: G23A100015.D			Analyzed: 04/10/23 21:55			
Bromochloromethane (1)	1100488	8.301				60 - 140		+/-0.50	
1,4-Difluorobenzene (1)	2159816	10.069				60 - 140		+/-0.50	
Chlorobenzene-d5 (1)	1991027	14.434				60 - 140		+/-0.50	
045163-10Mort-SV2 (23D0007-02)			Lab File ID: G23A100016.D			Analyzed: 04/10/23 22:37			
Bromochloromethane (1)	1091279	8.301				60 - 140		+/-0.50	
1,4-Difluorobenzene (1)	2133496	10.069				60 - 140		+/-0.50	
Chlorobenzene-d5 (1)	1974802	14.434				60 - 140		+/-0.50	
045163-10Mort-SV3 (23D0007-03)			Lab File ID: G23A100018.D			Analyzed: 04/11/23 00:01			
Bromochloromethane (1)	1070530	8.301				60 - 140		+/-0.50	
1,4-Difluorobenzene (1)	2123151	10.069				60 - 140		+/-0.50	
Chlorobenzene-d5 (1)	1958805	14.434				60 - 140		+/-0.50	
045163-10Mort-SV4 (23D0007-04)			Lab File ID: G23A100019.D			Analyzed: 04/11/23 00:42			
Bromochloromethane (1)	1068878	8.301				60 - 140		+/-0.50	
1,4-Difluorobenzene (1)	2118397	10.069				60 - 140		+/-0.50	
Chlorobenzene-d5 (1)	1944099	14.434				60 - 140		+/-0.50	

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CONTINUING CALIBRATION CHECK

COMPOUND	TYPE			RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
1,1-Dichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1-Dichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,ME,NH,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,ME,NH,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,ME,NH,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Trichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Trichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Vinyl Chloride	AIHA,FL,NJ,NY,ME,NH,VA
Vinyl Chloride	AIHA,FL,NJ,NY,ME,NH,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO 17025:2017	100033	03/1/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2023
FL	Florida Department of Health	E871027 NELAP	06/30/2023
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2023

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2300007

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DOC #378 REV3_11232021

CHAIN OF CUSTODY RECORD (AIR)

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name:	GEI Consultants
Address:	400 Unicorn Park Dr, Woburn, MA
Phone:	
Project Name:	Tufts St
Project Location:	Somerville, MA
Project Number:	045163
Project Manager:	Chris Coner
Pace Quote Name/Number:	2303422
Invoice Recipient:	
Sampled By:	D. Miller

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ ~~5day & 4 Day~~ ☒ email approval

Data Delivery
Format: PDF ☐ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

ANALYSIS REQUESTED

Lab Use	Client Use	Collection Data		Duration	Flow Rate	Matrix	Volume	ANALYSIS REQUESTED				" Hg			Please fill out completely, sign, date and retain the yellow copy for your records	
Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	☐ m³/min ☐ L/min	Code	☒ Liters ☐ m³	TO-15				Initial Pressure	Final Pressure	Lab Receipt Pressure	Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply	For summa canister and flow controller information please refer to Con-Test's Air Media Agreement
															Summa Can ID	Flow Controller ID
	045163-10Mor-SV1	3/31/23 0954	3/31/23 1054	60		SG	3	X				-29	-4.5	2.10	BC2383	4402
	045163-10Mor-SV2	3/31/23 0955	3/31/23 1055	60		SG	3	X				-30	-4	2.12	BC2742	4403
	045163-10Mor-SV3	3/31/23 0952	3/31/23 1052	60		SG	3	X				-30	-3.5	2.11	BC2750	4446
	045163-10Mor-SV4	3/31/23 0957	3/31/23 1057	60		SG	3	X				-30	-4	2.14	BC2754	4417

Comments: ☆ see attached analyte list

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:
SG = SOIL GAS
IA = INDOOR AIR
AMB = AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = Other_____

Relinquished by: (signature)	Date/Time:
Dawn Miller	3/31/23 @ 1230
Received by: (signature)	Date/Time:
Chad Lyons	3/31/23 1300
Relinquished by: (signature)	Date/Time:
Chad Lyons	3/31/23 1730
Received by: (signature)	Date/Time:
[illegible]	3/31/23 1730
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA
RI
Others

Special Requirements
☒ MA MCP Required
☐ MCP Certification Form Required
☐ CT RCP Required
☐ RCP Certification Form Required
☐ Other

Pace Analytical®
NELAC and AIHA-LAP, LLC Accredited

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☐ Brownfield ☐ MBTA

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

LAB NAME: Con-Test

LAB PICK-UP DATE: 3/31

PROJECT NAME: Tufts St

PROJECT NUMBER: 045163

NUMBER OF BOTTLES 24 air cans

~~COOLER~~ 1 OF 1

→ box

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F:413-525-6405
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Log In Back-Sheet

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

Pace® PEOPLE ADVANCING SCIENCE

Client GEI CONSULTANTS

Project TUFTS ST

(MCP)/RCP Required MCP

Deliverable Package Requirement —

Location Somerville, MA

PWSID# (When Applicable) _____

Arrival Method Courier

Received By / Date / Time MEM 3-31-23 1730

Back-Sheet By / Date / Time TPH 4-3-23 1015

Temperature Method _____ # _____

Temp < 6° C ☐ Actual Temperature _____

Rush Samples: Yes / (No) _____ Notify _____

Short Hold: Yes / (No) _____ Notify _____

	True	False
Received on Ice	☐	☒
Received in Cooler	☐	☒
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Individually Certified Cans	☐	☒
Trip Blanks	☐	☒
COC Legible	☒	☐

Notes regarding Samples/COC outside of SOP:

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

Container	#	Size	Regulator	Duration	Accessories			
Summa Cans	4	3L	4	1hr	Nut/Ferrule		IC Train	
Tedlar Bags					Tubing			
TO-17 Tubes					T-Connector		Shipping Charges	
Radiello					Syringe			
Pufs/ TO-11					Tedlar			

Can #'s		8		16		24	
1	2383	9		17		25	
2	2742	10		18		26	
3	2750	11		19		27	
4	2759	12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	

Regs #'s		8		16		24	
1	4402	9		17		25	
2	4403	10		18		26	
3	4446	11		19		27	
4	4417	12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	

Unused Media		8		16		24	
1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	

Pufs/TO-17's		8		16		24	
1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	

Air Sampling Media Certificate of Analysis

Date Analyzed: 3/22/2023 **Batch #:** 23CC0234

Certification Type: *Batch Certified* ☑ *Individual Certified* ☐

Media Type: *Summa Canister* ☑ *Flow Controllers* ☐

Media IDs: BC2383

Note:Two ID's grouped together, for example BC2136/BC3145, represents matched pairs of certified summa canisters and flow controllers.

Units: PPBv

<0.80	Propene	<0.04	Vinyl acetate	<0.02	Dibromchloromethane
<0.02	Dichlorodifluoromethane	<0.20	Hexane	<0.02	1,2-Dibromomethane
<0.04	Chloromethane	<0.02	Ethyl acetate	<0.02	Tetrachloroethylene
<0.02	Freon 114	<0.02	Chloroform	<0.02	Chlorobenzene
<0.02	Vinyl chloride	<0.02	Tetrahydrofuran	<0.02	Ethylbenzene
<0.02	1.3-Butadiene	<0.02	1,2-Dichloroethane	<0.04	m,p-Xylenes
<0.02	Bromomethane	<0.02	1,1,1-Trichloroethane	<0.02	Bromoform
<0.02	Chloroethane	<0.02	Benzene	<0.02	Styrene
<0.08	Acrolein	<0.02	Carbon Tetrachloride	<0.02	o-Xylene
<0.80	Acetone	<0.02	Cyclohexane	<0.02	1,1,2,2-Tetrachloroethane
<0.20	Trichlorofluoromethane	<0.02	1,2-Dichloropropane	<0.02	4-Ethyltoluene
<0.80	Ethanol	<0.02	Bromodichloromethane	<0.02	1,3,5-Trimethylbenzene
<0.02	1,1-Dichloroethylene	<0.02	Trichloroethylene	<0.02	1,2,4-Trimethylbenzene
<0.20	Methylene chloride	<0.02	1,4-Dioxane	<0.02	1,3-Dichlorobenzene
<0.20	Freon 113	<0.02	Methylmethacrylate	<0.02	Benzyl chloride
<0.2	Carbon disulfide	<0.02	Heptane	<0.02	1,4-Dichlorobenzene
<0.02	t-1,2-Dichloroethylene	<0.02	MIBK	<0.02	1,2-Dichlorobenzene
<0.02	1,1-Dichloroethane	<0.02	c-1,3-Dichloropropylene	<0.04	1,2,4-Trichlorobenzene
<0.02	MTBE	<0.02	t-1,3-Dichloropropylene	<0.02	Naphthalene
<0.80	IPA	<0.02	1,1,2-Trichloroethylene	<0.02	Hexachlorobutadiene
<0.20	2-Butanone (MEK)	<0.02	Toluene		
<0.02	c-1,2-Dichloroethylene	<0.02	2-Hexanone (MBK)		

Special Notes:

Analyst Initials/Date: CMR 4/13/23

Air Sampling Media Certificate of Analysis

Date Analyzed: 3/10/2023 **Batch #:** 23CC0193

Certification Type: *Batch Certified* ☑ *Individual Certified* ☐

Media Type: *Summa Canister* ☑ *Flow Controllers* ☐

Media IDs: BC2742, BC2750, BC2759

Note:Two ID's grouped together, for example BC2136/BC3145, represents matched pairs of certified summa canisters and flow controllers.

Units: PPBv

<0.80	Propene	<0.04	Vinyl acetate	<0.02	Dibromchloromethane
<0.02	Dichlorodifluoromethane	<0.20	Hexane	<0.02	1,2-Dibromomethane
<0.04	Chloromethane	<0.02	Ethyl acetate	<0.02	Tetrachloroethylene
<0.02	Freon 114	<0.02	Chloroform	<0.02	Chlorobenzene
<0.02	Vinyl chloride	<0.02	Tetrahydrofuran	<0.02	Ethylbenzene
<0.02	1.3-Butadiene	<0.02	1,2-Dichloroethane	<0.04	m,p-Xylenes
<0.02	Bromomethane	<0.02	1,1,1-Trichloroethane	<0.02	Bromoform
<0.02	Chloroethane	<0.02	Benzene	<0.02	Styrene
<0.08	Acrolein	<0.02	Carbon Tetrachloride	<0.02	o-Xylene
<0.80	Acetone	<0.02	Cyclohexane	<0.02	1,1,2,2-Tetrachloroethane
<0.20	Trichlorofluoromethane	<0.02	1,2-Dichloropropane	<0.02	4-Ethyltoluene
<0.80	Ethanol	<0.02	Bromodichloromethane	<0.02	1,3,5-Trimethylbenzene
<0.02	1,1-Dichloroethylene	<0.02	Trichloroethylene	<0.02	1,2,4-Trimethylbenzene
<0.20	Methylene chloride	<0.02	1,4-Dioxane	<0.02	1,3-Dichlorobenzene
<0.20	Freon 113	<0.02	Methylmethacrylate	<0.02	Benzyl chloride
<0.2	Carbon disulfide	<0.02	Heptane	<0.02	1,4-Dichlorobenzene
<0.02	t-1,2-Dichloroethylene	<0.02	MIBK	<0.02	1,2-Dichlorobenzene
<0.02	1,1-Dichloroethane	<0.02	c-1,3-Dichloropropylene	<0.04	1,2,4-Trichlorobenzene
<0.02	MTBE	<0.02	t-1,3-Dichloropropylene	<0.02	Naphthalene
<0.80	IPA	<0.02	1,1,2-Trichloroethylene	<0.02	Hexachlorobutadiene
<0.20	2-Butanone (MEK)	<0.02	Toluene		
<0.02	c-1,2-Dichloroethylene	<0.02	2-Hexanone (MBK)		

Special Notes:

Analyst Initials/Date: CMR 4/13/23

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Pace New England	Project #: 23D0007
Project Location: Somerville,MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

23D0007-01 thru 23D0007-04

Matrices: Air

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH (GC/PID/FID) CAM IV A ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP VPH (GC/MS) CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B (X)

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☑ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

<u>Data User Note:</u> Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Technical Representative

Printed Name: Lisa A. Worthington Date: 04/14/23

ANALYTICAL REPORT

Lab Number:	L2320431
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	50 TUFTS ST.
Project Number:	045163
Report Date:	04/26/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 50 TUFTS ST.
Project Number: 045163

Lab Number: L2320431
Report Date: 04/26/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2320431-01	045163-MW118D	WATER	SOMERVILLE, MA	04/17/23 13:00	04/17/23
L2320431-02	045163-MW118S	WATER	SOMERVILLE, MA	04/17/23 12:05	04/17/23
L2320431-03	045163-MW117-S	WATER	SOMERVILLE, MA	04/17/23 12:50	04/17/23
L2320431-04	045163-MW117-D	WATER	SOMERVILLE, MA	04/17/23 12:55	04/17/23
L2320431-05	045163-MW117-T	WATER	SOMERVILLE, MA	04/17/23 14:55	04/17/23
L2320431-06	045163-MW118T	WATER	SOMERVILLE, MA	04/17/23 15:15	04/17/23
L2320431-07	045163-MW122	WATER	SOMERVILLE, MA	04/17/23 15:50	04/17/23

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	50 TUFTS ST.	**Lab Number:**	L2320431
Project Number:	045163	**Report Date:**	04/26/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 50 TUFTS ST. **Lab Number:** L2320431
Project Number: 045163 **Report Date:** 04/26/23

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

L2320431-01 through -07D: Initial calibration utilized a quadratic fit for: trans-1,3-dichloropropene

In reference to question G:

L2320431-07D: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L2320431-01 through -07D: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.001), cis-1,3-dichloropropene (0.2959), 1,2-dibromoethane (0.1617), 1,1,2-trichloroethane (0.1431)

Average Response Factor: 1,4-dioxane, 1,1,2-trichloroethane, 1,2-dibromoethane

Verification: ethyl ether (133%), 1,4-dioxane (134%)

L2320431-01 through -07D: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 04/26/23

QC OUTLIER SUMMARY REPORT

Project Name: 50 TUFTS ST.
Project Number: 045163

Lab Number: L2320431
Report Date: 04/26/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1769350-3	Acetone	LCS	150	70-130	01-07	potential high bias
8260D	Batch QC	WG1769350-4	Acetone	LCSD	140	70-130	01-07	potential high bias

ORGANICS

VOLATILES

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-01
Client ID: 045163-MW118D
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 13:00
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 19:59
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	28		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-01 Date Collected: 04/17/23 13:00

Client ID: 045163-MW118D Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	3.4		ug/l	1.0	--	1
1,2-Dichloroethene, Total	3.4		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-01
Client ID: 045163-MW118D
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 13:00
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	122		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-02
Client ID: 045163-MW118S
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 12:05
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 20:22
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-02 Date Collected: 04/17/23 12:05

Client ID: 045163-MW118S Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-02
Client ID: 045163-MW118S
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 12:05
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	125		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-03
Client ID: 045163-MW117-S
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 12:50
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 20:45
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-03 Date Collected: 04/17/23 12:50

Client ID: 045163-MW117-S Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-03
Client ID: 045163-MW117-S
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 12:50
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	123		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-04
Client ID: 045163-MW117-D
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 12:55
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 21:07
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-04 Date Collected: 04/17/23 12:55

Client ID: 045163-MW117-D Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-04 Date Collected: 04/17/23 12:55

Client ID: 045163-MW117-D Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	125		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-05
Client ID: 045163-MW117-T
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 14:55
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 21:30
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-05 Date Collected: 04/17/23 14:55

Client ID: 045163-MW117-T Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-05 Date Collected: 04/17/23 14:55

Client ID: 045163-MW117-T Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	125		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-06
Client ID: 045163-MW118T
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 15:15
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 21:53
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	15		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	1.0		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-06 Date Collected: 04/17/23 15:15

Client ID: 045163-MW118T Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-06 Date Collected: 04/17/23 15:15

Client ID: 045163-MW118T Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	128		70-130

Project Name: 50 TUFTS ST.
Lab Number: L2320431
Project Number: 045163
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-07 D
Client ID: 045163-MW122
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 15:50
Date Received: 04/17/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/20/23 22:16
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	20	--	10
1,1-Dichloroethane	18		ug/l	10	--	10
Chloroform	ND		ug/l	10	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	10	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	10	--	10
Tetrachloroethene	1700		ug/l	10	--	10
Chlorobenzene	ND		ug/l	10	--	10
Trichlorofluoromethane	ND		ug/l	20	--	10
1,2-Dichloroethane	ND		ug/l	10	--	10
1,1,1-Trichloroethane	ND		ug/l	10	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	4.0	--	10
cis-1,3-Dichloropropene	ND		ug/l	4.0	--	10
1,3-Dichloropropene, Total	ND		ug/l	4.0	--	10
1,1-Dichloropropene	ND		ug/l	20	--	10
Bromoform	ND		ug/l	20	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	ND		ug/l	5.0	--	10
Toluene	ND		ug/l	10	--	10
Ethylbenzene	ND		ug/l	10	--	10
Chloromethane	ND		ug/l	20	--	10
Bromomethane	ND		ug/l	20	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	10	--	10

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-07 D Date Collected: 04/17/23 15:50
Client ID: 045163-MW122 Date Received: 04/17/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	170		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	10	--	10
1,3-Dichlorobenzene	ND		ug/l	10	--	10
1,4-Dichlorobenzene	ND		ug/l	10	--	10
Methyl tert butyl ether	ND		ug/l	20	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-Xylene	ND		ug/l	10	--	10
Xylenes, Total	ND		ug/l	10	--	10
cis-1,2-Dichloroethene	110		ug/l	10	--	10
1,2-Dichloroethene, Total	110		ug/l	10	--	10
Dibromomethane	ND		ug/l	20	--	10
1,2,3-Trichloropropane	ND		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Dichlorodifluoromethane	ND		ug/l	20	--	10
Acetone	ND		ug/l	50	--	10
Carbon disulfide	ND		ug/l	20	--	10
Methyl ethyl ketone	ND		ug/l	50	--	10
Methyl isobutyl ketone	ND		ug/l	50	--	10
2-Hexanone	ND		ug/l	50	--	10
Bromochloromethane	ND		ug/l	20	--	10
Tetrahydrofuran	ND		ug/l	20	--	10
2,2-Dichloropropane	ND		ug/l	20	--	10
1,2-Dibromoethane	ND		ug/l	20	--	10
1,3-Dichloropropane	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Bromobenzene	ND		ug/l	20	--	10
n-Butylbenzene	ND		ug/l	20	--	10
sec-Butylbenzene	ND		ug/l	20	--	10
tert-Butylbenzene	ND		ug/l	20	--	10
o-Chlorotoluene	ND		ug/l	20	--	10
p-Chlorotoluene	ND		ug/l	20	--	10
1,2-Dibromo-3-chloropropane	ND		ug/l	20	--	10
Hexachlorobutadiene	ND		ug/l	6.0	--	10
Isopropylbenzene	ND		ug/l	20	--	10
p-Isopropyltoluene	ND		ug/l	20	--	10
Naphthalene	ND		ug/l	20	--	10
n-Propylbenzene	ND		ug/l	20	--	10

Project Name: 50 TUFTS ST. **Lab Number:** L2320431

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320431-07 D Date Collected: 04/17/23 15:50

Client ID: 045163-MW122 Date Received: 04/17/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	20	--	10
1,2,4-Trichlorobenzene	ND		ug/l	20	--	10
1,3,5-Trimethylbenzene	ND		ug/l	20	--	10
1,2,4-Trimethylbenzene	ND		ug/l	20	--	10
Diethyl ether	ND		ug/l	20	--	10
Diisopropyl Ether	ND		ug/l	20	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/l	20	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	10
1,4-Dioxane	ND		ug/l	2500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	112		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/20/23 17:41
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-07 Batch: WG1769350-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/20/23 17:41
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-07 Batch: WG1769350-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: 50 TUFTS ST.
Project Number: 045163
Lab Number: L2320431
Report Date: 04/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/20/23 17:41
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-07 Batch: WG1769350-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	123		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 50 TUFTS ST.
Project Number: 045163

Lab Number: L2320431
Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-07 Batch: WG1769350-3 WG1769350-4								
Methylene chloride	120		110		70-130	9		20
1,1-Dichloroethane	100		98		70-130	2		20
Chloroform	100		99		70-130	1		20
Carbon tetrachloride	120		110		70-130	9		20
1,2-Dichloropropane	92		92		70-130	0		20
Dibromochloromethane	96		96		70-130	0		20
1,1,2-Trichloroethane	86		83		70-130	4		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	94		93		70-130	1		20
Trichlorofluoromethane	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	110		100		70-130	10		20
Bromodichloromethane	100		99		70-130	1		20
trans-1,3-Dichloropropene	83		83		70-130	0		20
cis-1,3-Dichloropropene	94		93		70-130	1		20
1,1-Dichloropropene	97		95		70-130	2		20
Bromoform	97		94		70-130	3		20
1,1,2,2-Tetrachloroethane	75		77		70-130	3		20
Benzene	95		94		70-130	1		20
Toluene	90		88		70-130	2		20
Ethylbenzene	90		88		70-130	2		20
Chloromethane	97		94		70-130	3		20
Bromomethane	110		100		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 50 TUFTS ST.

Project Number: 045163

Lab Number: L2320431

Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-07 Batch: WG1769350-3 WG1769350-4								
Vinyl chloride	92		88		70-130	4		20
Chloroethane	99		99		70-130	0		20
1,1-Dichloroethene	110		110		70-130	0		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	96		95		70-130	1		20
1,3-Dichlorobenzene	96		96		70-130	0		20
1,4-Dichlorobenzene	96		96		70-130	0		20
Methyl tert butyl ether	120		110		70-130	9		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	99		95		70-130	4		20
Dibromomethane	97		97		70-130	0		20
1,2,3-Trichloropropane	77		77		70-130	0		20
Styrene	100		95		70-130	5		20
Dichlorodifluoromethane	100		98		70-130	2		20
Acetone	**150**	Q	**140**	Q	70-130	7		20
Carbon disulfide	100		98		70-130	2		20
Methyl ethyl ketone	100		110		70-130	10		20
Methyl isobutyl ketone	72		77		70-130	7		20
2-Hexanone	75		78		70-130	4		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	88		88		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 50 TUFTS ST.
Project Number: 045163

Lab Number: L2320431
Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-07 Batch: WG1769350-3 WG1769350-4								
2,2-Dichloropropane	100		100		70-130	0		20
1,2-Dibromoethane	90		88		70-130	2		20
1,3-Dichloropropane	84		85		70-130	1		20
1,1,1,2-Tetrachloroethane	99		97		70-130	2		20
Bromobenzene	97		94		70-130	3		20
n-Butylbenzene	80		77		70-130	4		20
sec-Butylbenzene	86		84		70-130	2		20
tert-Butylbenzene	88		86		70-130	2		20
o-Chlorotoluene	81		80		70-130	1		20
p-Chlorotoluene	82		80		70-130	2		20
1,2-Dibromo-3-chloropropane	89		100		70-130	12		20
Hexachlorobutadiene	100		96		70-130	4		20
Isopropylbenzene	82		79		70-130	4		20
p-Isopropyltoluene	89		87		70-130	2		20
Naphthalene	80		83		70-130	4		20
n-Propylbenzene	81		80		70-130	1		20
1,2,3-Trichlorobenzene	96		98		70-130	2		20
1,2,4-Trichlorobenzene	94		95		70-130	1		20
1,3,5-Trimethylbenzene	84		83		70-130	1		20
1,2,4-Trimethylbenzene	83		82		70-130	1		20
Diethyl ether	110		110		70-130	0		20
Diisopropyl Ether	92		90		70-130	2		20
Ethyl-Tert-Butyl-Ether	88		88		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 50 TUFTS ST.

Project Number: 045163

Lab Number: L2320431

Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-07 Batch: WG1769350-3 WG1769350-4								
Tertiary-Amyl Methyl Ether	88		87		70-130	1		20
1,4-Dioxane	82		84		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		110		70-130
Toluene-d8	93		92		70-130
4-Bromofluorobenzene	81		81		70-130
Dibromofluoromethane	107		107		70-130

Project Name: 50 TUFTS ST.
Project Number: 045163

Lab Number: L2320431
Report Date: 04/26/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2320431-01A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-01B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-01C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-02A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-02B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-02C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-03A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-03B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-03C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-04A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-04B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-04C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-05A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-05B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-05C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-06A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-06B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-06C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-07A	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-07B	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)
L2320431-07C	Vial HCl preserved	A	NA		2.7	Y	Absent		MCP-8260-21(14)

*Values in parentheses indicate holding time in days

Project Name:	50 TUFTS ST.	**Lab Number:**	L2320431
Project Number:	045163	**Report Date:**	04/26/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	50 TUFTS ST.	**Lab Number:**	L2320431
Project Number:	045163	**Report Date:**	04/26/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	50 TUFTS ST.	**Lab Number:**	L2320431
Project Number:	045163	**Report Date:**	04/26/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd In Lab: 4/17/23 4/17 mbt 4/17

ALPHA Job #: L2320431

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: 50 Tufts St.
Project Location: Somerville MA
Project #: 045163
Project Manager: Chris Coner
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: GEI Consultants Inc.
Address: 400 Unicorn Park Dr.
Woburn MA 01801
Phone: 781-721-4000
Email: labdata@geiconsultants.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Additional Project Information:

ANALYSIS

VOC: ☒ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	Sample Comments	TOTAL # BOTTLES
20431-01	045163-MW118D	4/17/23	13:00	GW	CWS	X		
02	045163-MW118S	4/17/23	12:05	GW	CWS	X		
03	045163-MW117-S	4/17/23	12:50	GW	DJM	X		
04	045163-MW117-D	4/17/23	12:55	GW	DJM	X		
05	045163-MW117-T	4/17/23	14:55	GW	DJM	X		
06	045163-MW118T	4/17/23	1515	GW	CWS	X		
07	045163-MW122	4/17/23	1540	GW	~~CWS~~ DJM	X		

Container Type	VOA							
Preservative	HCL							

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
David Mill	4/17/23 16:10	AmAAL	4/17/23 1610
	4/17/23 1740		4/17/23 1740

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2320431
Project Name	: 50 TUFTS ST.	**Project Number**	: 045163
Lab Sample ID	: WG1769350-5	**Lab File ID**	: VQ230420P06
Instrument ID	: QUIMBY		
Matrix	: WATER	**Analysis Date**	: 04/20/23 17:41

Client Sample No.	Lab Sample ID	Analysis Date
WG1769350-3LCS	WG1769350-3	04/20/23 16:32
WG1769350-4LCSD	WG1769350-4	04/20/23 16:55
045163-MW118D	L2320431-01	04/20/23 19:59
045163-MW118S	L2320431-02	04/20/23 20:22
045163-MW117-S	L2320431-03	04/20/23 20:45
045163-MW117-D	L2320431-04	04/20/23 21:07
045163-MW117-T	L2320431-05	04/20/23 21:30
045163-MW118T	L2320431-06	04/20/23 21:53
045163-MW122	L2320431-07D	04/20/23 22:16

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320431	
Project Name	: 50 TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: QUIMBY		**Calibration Date**	: 04/20/23 16:32	
Lab File ID	: VQ230420P03		**Init. Calib. Date(s)**	: 03/30/23	03/30/23
Sample No	: WG1769350-2		**Init. Calib. Times**	: 07:23	10:02
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	68	0
Dichlorodifluoromethane	0.291	0.301	-	-3.4	20	65	0
Chloromethane	0.344	0.334	-	2.9	20	62	0
Vinyl chloride	0.292	0.268	-	8.2	20	60	0
Bromomethane	0.123	0.135	-	-9.8	20	76	0
Chloroethane	0.172	0.171	-	0.6	20	62	0
Trichlorofluoromethane	0.404	0.46	-	-13.9	20	70	0
Ethyl ether	0.089	0.096	-	-7.9	20	76	0
1,1-Dichloroethene	0.214	0.238	-	-11.2	20	70	0
Carbon disulfide	0.618	0.62	-	-0.3	20	63	0
Freon-113	0.234	0.27	-	-15.4	20	71	0
Iodomethane	10	11.422	-	-14.2	20	94	0
Acrolein	10	10.849	-	-8.5	20	77	0
Methylene chloride	10	11.974	-	-19.7	20	72	0
Acetone	10	15.385	-	-53.8*	20	103	0
trans-1,2-Dichloroethene	0.237	0.266	-	-12.2	20	74	0
Methyl acetate	0.114	0.126	-	-10.5	20	76	0
Methyl tert-butyl ether	0.41	0.485	-	-18.3	20	80	0
tert-Butyl alcohol	0.01	0.012	-	-20	20	84	0
Diisopropyl ether	0.903	0.83	-	8.1	20	65	0
1,1-Dichloroethane	0.537	0.538	-	-0.2	20	64	0
Halothane	0.205	0.226	-	-10.2	20	68	0
Acrylonitrile	0.052	0.05	-	3.8	20	67	0
Ethyl tert-butyl ether	0.675	0.597	-	11.6	20	64	0
Vinyl acetate	0.49	0.439	-	10.4	20	64	0
cis-1,2-Dichloroethene	0.298	0.295	-	1	20	64	0
2,2-Dichloropropane	0.47	0.489	-	-4	20	66	0
Bromochloromethane	0.125	0.138	-	-10.4	20	71	0
Cyclohexane	0.524	0.507	-	3.2	20	61	0
Chloroform	0.516	0.514	-	0.4	20	64	0
Ethyl acetate	0.15	0.134	-	10.7	20	68	0
Carbon tetrachloride	0.388	0.448	-	-15.5	20	71	0
Tetrahydrofuran	0.059	0.052	-	11.9	20	64	-.01
Dibromofluoromethane	0.297	0.317	-	-6.7	20	71	0
1,1,1-Trichloroethane	0.447	0.49	-	-9.6	20	68	0
2-Butanone	0.061	0.064	-	-4.9	20	84	0
1,1-Dichloropropene	0.343	0.334	-	2.6	20	62	0
Benzene	1.027	0.98	-	4.6	20	62	0
tert-Amyl methyl ether	0.509	0.445	-	12.6	20	62	0
1,2-Dichloroethane-d4	0.333	0.36	-	-8.1	20	69	0
1,2-Dichloroethane	0.342	0.35	-	-2.3	20	67	0
Methyl cyclohexane	0.461	0.424	-	8	20	61	0
Trichloroethene	0.255	0.261	-	-2.4	20	65	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2320431
Project Name	: 50 TUFTS ST.	**Project Number**	: 045163
Instrument ID	: QUIMBY	**Calibration Date**	: 04/20/23 16:32
Lab File ID	: VQ230420P03	**Init. Calib. Date(s)**	: 03/30/23 03/30/23
Sample No	: WG1769350-2	**Init. Calib. Times**	: 07:23 10:02
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.128	0.124	-	3.1	20	64	0
1,2-Dichloropropane	0.257	0.238	-	7.4	20	61	0
2-Chloroethyl vinyl ether	0.094	0.064	-	31.9*	20	51	0
Bromodichloromethane	0.354	0.357	-	-0.8	20	65	0
1,4-Dioxane	0.00106	0.00088*	-	17	20	53	-.01
cis-1,3-Dichloropropene	0.363	0.342	-	5.8	20	62	0
Chlorobenzene-d5	1	1	-	0	20	72	0
Toluene-d8	1.372	1.273	-	7.2	20	67	0
Toluene	0.83	0.75	-	9.6	20	63	0
4-Methyl-2-pentanone	10	7.227	-	27.7*	20	58	0
Tetrachloroethene	0.33	0.371	-	-12.4	20	79	0
trans-1,3-Dichloropropene	10	8.319	-	16.8	20	64	0
Ethyl methacrylate	0.239	0.181	-	24.3*	20	60	0
1,1,2-Trichloroethane	0.178	0.153*	-	14	20	66	0
Chlorodibromomethane	0.273	0.261	-	4.4	20	73	0
1,3-Dichloropropane	0.381	0.32	-	16	20	63	0
1,2-Dibromoethane	0.197	0.177*	-	10.2	20	68	0
2-Hexanone	0.111	0.083	-	25.2*	20	61	-.01
Chlorobenzene	0.889	0.835	-	6.1	20	66	0
Ethylbenzene	1.615	1.458	-	9.7	20	62	0
1,1,1,2-Tetrachloroethane	0.303	0.299	-	1.3	20	74	0
p/m Xylene	0.616	0.602	-	2.3	20	65	0
o Xylene	0.59	0.564	-	4.4	20	64	0
Styrene	0.936	0.919	-	1.8	20	65	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	82	0
Bromoform	0.251	0.243	-	3.2	20	86	0
Isopropylbenzene	2.905	2.377	-	18.2	20	64	0
4-Bromofluorobenzene	0.914	0.74	-	19	20	68	0
Bromobenzene	0.653	0.632	-	3.2	20	79	0
n-Propylbenzene	3.533	2.871	-	18.7	20	62	0
1,4-Dichlorobutane	0.68	0.508	-	25.3*	20	63	0
1,1,2,2-Tetrachloroethane	0.408	0.307	-	24.8*	20	64	0
4-Ethyltoluene	2.952	2.51	-	15	20	65	0
2-Chlorotoluene	2.534	2.052	-	19	20	63	0
1,3,5-Trimethylbenzene	2.463	2.083	-	15.4	20	67	0
1,2,3-Trichloropropane	0.345	0.266	-	22.9*	20	65	0
trans-1,4-Dichloro-2-buten	0.135	0.104	-	23*	20	66	0
4-Chlorotoluene	2.256	1.841	-	18.4	20	64	0
tert-Butylbenzene	2.16	1.911	-	11.5	20	68	0
1,2,4-Trimethylbenzene	2.38	1.966	-	17.4	20	67	0
sec-Butylbenzene	3.182	2.74	-	13.9	20	64	0
p-Isopropyltoluene	2.721	2.428	-	10.8	20	68	0
1,3-Dichlorobenzene	1.361	1.3	-	4.5	20	76	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320431	
Project Name	: 50 TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: QUIMBY		**Calibration Date**	: 04/20/23 16:32	
Lab File ID	: VQ230420P03		**Init. Calib. Date(s)**	: 03/30/23	03/30/23
Sample No	: WG1769350-2		**Init. Calib. Times**	: 07:23	10:02
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.347	1.292	-	4.1	20	77	0
p-Diethylbenzene	1.645	1.359	-	17.4	20	67	0
n-Butylbenzene	2.461	1.96	-	20.4*	20	63	0
1,2-Dichlorobenzene	1.207	1.155	-	4.3	20	76	0
1,2,4,5-Tetramethylbenzene	2.475	1.954	-	21.1*	20	63	0
1,2-Dibromo-3-chloropropan	0.057	0.051	-	10.5	20	76	0
1,3,5-Trichlorobenzene	1.01	0.949	-	6	20	81	0
Hexachlorobutadiene	0.417	0.418	-	-0.2	20	85	0
1,2,4-Trichlorobenzene	0.817	0.765	-	6.4	20	79	0
Naphthalene	1.379	1.098	-	20.4*	20	67	0
1,2,3-Trichlorobenzene	0.681	0.655	-	3.8	20	79	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2320709
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	04/26/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320709
Report Date: 04/26/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2320709-01	045163-MW119S	WATER	SOMERVILLE, MA	04/17/23 16:24	04/18/23
L2320709-02	045163-MW119T	WATER	SOMERVILLE, MA	04/17/23 16:45	04/18/23

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2320709
Project Number:	045163	**Report Date:**	04/26/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS ST. **Lab Number:** L2320709
Project Number: 045163 **Report Date:** 04/26/23

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

L2320709-01 and -02: Initial calibration utilized a quadratic fit for: trans-1,3-dichloropropene

In reference to question H:

L2320709-01 and -02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.001), cis-1,3-dichloropropene (0.2959), 1,2-dibromoethane (0.1617), 1,1,2-trichloroethane (0.1431)

Average Response Factor: 1,4-dioxane, 1,1,2-trichloroethane, 1,2-dibromoethane

Verification: ethyl ether (133%), 1,4-dioxane (134%)

L2320709-01 and -02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative Date: 04/26/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320709
Report Date: 04/26/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1770828-3	Acetone	LCS	170	70-130	01-02	potential high bias
8260D	Batch QC	WG1770828-4	Acetone	LCSD	170	70-130	01-02	potential high bias

ORGANICS

VOLATILES

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320709
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-01
Client ID: 045163-MW119S
Sample Location: SOMERVILLE, MA
Date Collected: 04/17/23 16:24
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/25/23 10:49
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-01 Date Collected: 04/17/23 16:24

Client ID: 045163-MW119S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-01 Date Collected: 04/17/23 16:24

Client ID: 045163-MW119S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	124		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320709
Report Date: 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-02
Client ID: 045163-MW119T
Sample Location: SOMERVILLE, MA

Date Collected: 04/17/23 16:45
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/25/23 11:12
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	2.6		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	36		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	2.6		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-02 Date Collected: 04/17/23 16:45

Client ID: 045163-MW119T Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	10		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320709

Project Number: 045163 **Report Date:** 04/26/23

SAMPLE RESULTS

Lab ID: L2320709-02 Date Collected: 04/17/23 16:45

Client ID: 045163-MW119T Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	123		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320709
Report Date: 04/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/25/23 07:01
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1770828-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320709
Report Date: 04/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/25/23 07:01
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1770828-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320709
Report Date: 04/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/25/23 07:01
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1770828-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	120		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320709

Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1770828-3 WG1770828-4								
Methylene chloride	120		120		70-130	0		20
1,1-Dichloroethane	99		100		70-130	1		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	110		120		70-130	9		20
1,2-Dichloropropane	88		90		70-130	2		20
Dibromochloromethane	89		97		70-130	9		20
1,1,2-Trichloroethane	77		83		70-130	8		20
Tetrachloroethene	110		120		70-130	9		20
Chlorobenzene	92		96		70-130	4		20
Trichlorofluoromethane	120		120		70-130	0		20
1,2-Dichloroethane	100		110		70-130	10		20
1,1,1-Trichloroethane	110		110		70-130	0		20
Bromodichloromethane	99		100		70-130	1		20
trans-1,3-Dichloropropene	76		81		70-130	6		20
cis-1,3-Dichloropropene	90		93		70-130	3		20
1,1-Dichloropropene	92		96		70-130	4		20
Bromoform	91		97		70-130	6		20
1,1,2,2-Tetrachloroethane	72		74		70-130	3		20
Benzene	92		95		70-130	3		20
Toluene	88		91		70-130	3		20
Ethylbenzene	87		90		70-130	3		20
Chloromethane	93		93		70-130	0		20
Bromomethane	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320709
Report Date: 04/26/23

MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1770828-3 WG1770828-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Vinyl chloride	88		88		70-130	0		20
Chloroethane	120		110		70-130	9		20
1,1-Dichloroethene	120		120		70-130	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	98		100		70-130	2		20
1,2-Dichlorobenzene	95		98		70-130	3		20
1,3-Dichlorobenzene	94		98		70-130	4		20
1,4-Dichlorobenzene	95		99		70-130	4		20
Methyl tert butyl ether	110		120		70-130	9		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	98		99		70-130	1		20
Dibromomethane	98		100		70-130	2		20
1,2,3-Trichloropropane	73		77		70-130	5		20
Styrene	95		100		70-130	5		20
Dichlorodifluoromethane	97		98		70-130	1		20
Acetone	**170**	Q	**170**	Q	70-130	0		20
Carbon disulfide	110		110		70-130	0		20
Methyl ethyl ketone	100		100		70-130	0		20
Methyl isobutyl ketone	73		77		70-130	5		20
2-Hexanone	72		80		70-130	11		20
Bromochloromethane	110		120		70-130	9		20
Tetrahydrofuran	84		89		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320709

Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1770828-3 WG1770828-4								
2,2-Dichloropropane	99		100		70-130	1		20
1,2-Dibromoethane	84		89		70-130	6		20
1,3-Dichloropropane	78		84		70-130	7		20
1,1,1,2-Tetrachloroethane	93		99		70-130	6		20
Bromobenzene	94		98		70-130	4		20
n-Butylbenzene	76		79		70-130	4		20
sec-Butylbenzene	84		88		70-130	5		20
tert-Butylbenzene	87		91		70-130	4		20
o-Chlorotoluene	80		82		70-130	2		20
p-Chlorotoluene	80		82		70-130	2		20
1,2-Dibromo-3-chloropropane	94		97		70-130	3		20
Hexachlorobutadiene	98		100		70-130	2		20
Isopropylbenzene	80		84		70-130	5		20
p-Isopropyltoluene	86		91		70-130	6		20
Naphthalene	82		85		70-130	4		20
n-Propylbenzene	79		82		70-130	4		20
1,2,3-Trichlorobenzene	96		100		70-130	4		20
1,2,4-Trichlorobenzene	93		98		70-130	5		20
1,3,5-Trimethylbenzene	82		86		70-130	5		20
1,2,4-Trimethylbenzene	80		84		70-130	5		20
Diethyl ether	100		110		70-130	10		20
Diisopropyl Ether	89		92		70-130	3		20
Ethyl-Tert-Butyl-Ether	85		88		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320709

Report Date: 04/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1770828-3 WG1770828-4								
Tertiary-Amyl Methyl Ether	84		88		70-130	5		20
1,4-Dioxane	90		84		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	111		112		70-130
Toluene-d8	93		93		70-130
4-Bromofluorobenzene	80		81		70-130
Dibromofluoromethane	112		109		70-130

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320709
Report Date: 04/26/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2320709-01A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320709-01B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320709-01C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320709-02A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320709-02B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320709-02C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2320709
Project Number:	045163	**Report Date:**	04/26/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2320709
Project Number:	045163	**Report Date:**	04/26/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2320709
Project Number:	045163	**Report Date:**	04/26/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain-of-Custody Record

Laboratory:

Laboratory Job # (Lab use only) L2320709

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Tufts St
Project Location: Somerville MA
Project Number: 045163
Project Manager: Chris Coner
Send Report to: Chris Coner, Molly Greer
lab data@geiconsultants.com

Page 1 of 1

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other ____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Preservative: HCL; VOCs 8260

Sample Handling: Samples Field Filtered — YES (NO) NA; Sampled Shipped With Ice — (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	HCL	VOCs 8260	Sample Specific Remarks
L2320709-01	045163-MW119S	4/17/23	16:29	GW	3	JKF	X	X	
02	045163-MW119T	4/17/23	16:45	GW	3	JKF	X	X	

	Relinquished by sampler: (signature)	Date	Time	Received by: (signature)
1.	Helen Yu	4/17/23	18:00	1. GEI Fridge
2.	GEI Fridge	4/18/23	7:00	2. Helen Yu
3.	Helen Yu	4/18/23	15:30	3. Kajdmir E AAL
4.	Kajdmir E AAL	4/18	17:46	4. Kyle
5.				5.

Turnaround Time (Business days):
Normal X 4-Day ____ 3-Day ____ 2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

Method Blank Summary
Form 4
Volatiles

Client	: **GEI Consultants**	**Lab Number**	: **L2320709**
Project Name	: **TUFTS ST.**	**Project Number**	: **045163**
Lab Sample ID	: **WG1770828-5**	**Lab File ID**	: **VQ230425D05**
Instrument ID	: **QUIMBY**		
Matrix	: **WATER**	**Analysis Date**	: **04/25/23 07:01**

Client Sample No.	Lab Sample ID	Analysis Date
WG1770828-3LCS	WG1770828-3	04/25/23 05:53
WG1770828-4LCSD	WG1770828-4	04/25/23 06:15
045163-MW119S	L2320709-01	04/25/23 10:49
045163-MW119T	L2320709-02	04/25/23 11:12

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320709	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: QUIMBY		**Calibration Date**	: 04/25/23 05:53	
Lab File ID	: VQ230425D02		**Init. Calib. Date(s)**	: 03/30/23	03/30/23
Sample No	: WG1770828-2		**Init. Calib. Times**	: 07:23	10:02
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	68	0
Dichlorodifluoromethane	0.291	0.281	-	3.4	20	60	0
Chloromethane	0.344	0.319	-	7.3	20	59	0
Vinyl chloride	0.292	0.256	-	12.3	20	57	0
Bromomethane	0.123	0.136	-	-10.6	20	76	0
Chloroethane	0.172	0.199	-	-15.7	20	71	0
Trichlorofluoromethane	0.404	0.488	-	-20.8*	20	74	0
Ethyl ether	0.089	0.093	-	-4.5	20	73	0
1,1-Dichloroethene	0.214	0.253	-	-18.2	20	73	0
Carbon disulfide	0.618	0.685	-	-10.8	20	69	0
Methylene chloride	10	12.311	-	-23.1*	20	73	0
Acetone	10	16.831	-	-68.3*	20	111	0
trans-1,2-Dichloroethene	0.237	0.264	-	-11.4	20	72	0
Methyl tert-butyl ether	0.41	0.464	-	-13.2	20	76	0
Diisopropyl ether	0.903	0.801	-	11.3	20	62	0
1,1-Dichloroethane	0.537	0.532	-	0.9	20	63	0
Ethyl tert-butyl ether	0.675	0.574	-	15	20	61	0
cis-1,2-Dichloroethene	0.298	0.292	-	2	20	62	0
2,2-Dichloropropane	0.47	0.465	-	1.1	20	62	0
Bromochloromethane	0.125	0.138	-	-10.4	20	71	0
Chloroform	0.516	0.521	-	-1	20	64	0
Carbon tetrachloride	0.388	0.443	-	-14.2	20	70	0
Tetrahydrofuran	0.059	0.05	-	15.3	20	61	0
Dibromofluoromethane	0.297	0.332	-	-11.8	20	74	0
1,1,1-Trichloroethane	0.447	0.474	-	-6	20	65	0
2-Butanone	0.061	0.063	-	-3.3	20	81	0
1,1-Dichloropropene	0.343	0.316	-	7.9	20	58	0
Benzene	1.027	0.95	-	7.5	20	59	0
tert-Amyl methyl ether	0.509	0.427	-	16.1	20	59	0
1,2-Dichloroethane-d4	0.333	0.37	-	-11.1	20	70	0
1,2-Dichloroethane	0.342	0.353	-	-3.2	20	67	0
Trichloroethene	0.255	0.251	-	1.6	20	62	0
Dibromomethane	0.128	0.125	-	2.3	20	64	0
1,2-Dichloropropane	0.257	0.226	-	12.1	20	57	0
Bromodichloromethane	0.354	0.349	-	1.4	20	63	0
1,4-Dioxane	0.00106	0.00096*	-	9.4	20	58	0
cis-1,3-Dichloropropene	0.363	0.326	-	10.2	20	59	0
Chlorobenzene-d5	1	1	-	0	20	75	0
Toluene-d8	1.372	1.274	-	7.1	20	69	0
Toluene	0.83	0.727	-	12.4	20	63	0
4-Methyl-2-pentanone	10	7.297	-	27*	20	61	0
Tetrachloroethene	0.33	0.354	-	-7.3	20	78	0
trans-1,3-Dichloropropene	10	7.614	-	23.9*	20	61	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2320709
Project Name	: TUFTS ST.	**Project Number**	: 045163
Instrument ID	: QUIMBY	**Calibration Date**	: 04/25/23 05:53
Lab File ID	: VQ230425D02	**Init. Calib. Date(s)**	: 03/30/23 03/30/23
Sample No	: WG1770828-2	**Init. Calib. Times**	: 07:23 10:02
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.178	0.138*	-	22.5*	20	61	0
Chlorodibromomethane	0.273	0.243	-	11	20	70	0
1,3-Dichloropropane	0.381	0.297	-	22*	20	60	0
1,2-Dibromoethane	0.197	0.165*	-	16.2	20	66	0
2-Hexanone	0.111	0.08	-	27.9*	20	62	0
Chlorobenzene	0.889	0.818	-	8	20	66	0
Ethylbenzene	1.615	1.401	-	13.3	20	62	0
1,1,1,2-Tetrachloroethane	0.303	0.283	-	6.6	20	72	0
p/m Xylene	0.616	0.583	-	5.4	20	65	0
o Xylene	0.59	0.554	-	6.1	20	65	0
Styrene	0.936	0.881	-	5.9	20	64	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	83	0
Bromoform	0.251	0.229	-	8.8	20	81	0
Isopropylbenzene	2.905	2.334	-	19.7	20	63	0
4-Bromofluorobenzene	0.914	0.733	-	19.8	20	67	0
Bromobenzene	0.653	0.612	-	6.3	20	77	0
n-Propylbenzene	3.533	2.805	-	20.6*	20	61	0
1,1,2,2-Tetrachloroethane	0.408	0.296	-	27.5*	20	62	0
2-Chlorotoluene	2.534	2.025	-	20.1*	20	63	0
1,3,5-Trimethylbenzene	2.463	2.027	-	17.7	20	66	0
1,2,3-Trichloropropane	0.345	0.25	-	27.5*	20	62	0
4-Chlorotoluene	2.256	1.811	-	19.7	20	63	0
tert-Butylbenzene	2.16	1.88	-	13	20	67	0
1,2,4-Trimethylbenzene	2.38	1.904	-	20	20	65	0
sec-Butylbenzene	3.182	2.69	-	15.5	20	63	0
p-Isopropyltoluene	2.721	2.354	-	13.5	20	66	0
1,3-Dichlorobenzene	1.361	1.281	-	5.9	20	76	0
1,4-Dichlorobenzene	1.347	1.281	-	4.9	20	77	0
n-Butylbenzene	2.461	1.863	-	24.3*	20	60	0
1,2-Dichlorobenzene	1.207	1.151	-	4.6	20	76	0
1,2-Dibromo-3-chloropropan	0.057	0.054	-	5.3	20	81	0
Hexachlorobutadiene	0.417	0.411	-	1.4	20	84	0
1,2,4-Trichlorobenzene	0.817	0.759	-	7.1	20	78	0
Naphthalene	1.379	1.125	-	18.4	20	68	0
1,2,3-Trichlorobenzene	0.681	0.656	-	3.7	20	79	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2320701
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	05/02/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2320701-01	045163-MW120S	WATER	SOMERVILLE, MA	04/18/23 11:05	04/18/23
L2320701-02	045163-MW120D	WATER	SOMERVILLE, MA	04/18/23 10:45	04/18/23
L2320701-03	045163-MW116	WATER	SOMERVILLE, MA	04/18/23 13:15	04/18/23
L2320701-04	045163-MW900	WATER	SOMERVILLE, MA	04/18/23 12:00	04/18/23
L2320701-05	045163-MW202	WATER	SOMERVILLE, MA	04/18/23 09:55	04/18/23
L2320701-06	045163-GEO-1	WATER	SOMERVILLE, MA	04/18/23 11:15	04/18/23
L2320701-07	045163-GEO-2	WATER	SOMERVILLE, MA	04/18/23 13:40	04/18/23
L2320701-08	045163-MW901	WATER	SOMERVILLE, MA	04/18/23 12:01	04/18/23
L2320701-09	045163-MW121D	WATER	SOMERVILLE, MA	04/18/23 14:40	04/18/23
L2320701-10	045163-MW121S	WATER	SOMERVILLE, MA	04/18/23 15:00	04/18/23

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2320701
Project Number:	045163	**Report Date:**	05/02/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS ST. **Lab Number:** L2320701
Project Number: 045163 **Report Date:** 05/02/23

Case Narrative (continued)

Report Submission

The analysis of Sulfide was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

MCP Related Narratives

Volatile Organics

In reference to question H:

L2320701-01 through -10: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0012)

Average Response Factor: 1,4-dioxane

L2320701-01 through -10: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Total Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Non-MCP Related Narratives

Iron, Ferrous

The WG1768505-4 MS recovery, performed on L2320701-07, is outside the acceptance criteria for iron, ferrous (62%); however, the associated LCS recovery is within criteria. No further action was taken.

Sulfate

The WG1772579-3 Laboratory Duplicate RPD for sulfate (18%), performed on L2320701-07, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit.

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
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Case Narrative (continued)

Therefore, the RPD is valid.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative

Date: 05/02/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
General Chemistry - Westborough Lab								
3500FE-B	Batch QC (L2320701-07)	WG1768505-4	Iron, Ferrous	MS	62	80-120	07	potential low bias
9038	Batch QC (L2320701-07)	WG1772579-3	Sulfate	Duplicate	18	14	07	non-directional bias

ORGANICS

VOLATILES

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-01 Date Collected: 04/18/23 11:05
Client ID: 045163-MW120S Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 15:50
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-01 Date Collected: 04/18/23 11:05

Client ID: 045163-MW120S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-01 Date Collected: 04/18/23 11:05

Client ID: 045163-MW120S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	122		70-130

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-02 Date Collected: 04/18/23 10:45
Client ID: 045163-MW120D Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 16:15
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	1.7		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	5.2		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-02 Date Collected: 04/18/23 10:45

Client ID: 045163-MW120D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	2.0		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-02 Date Collected: 04/18/23 10:45

Client ID: 045163-MW120D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	122		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-03
Client ID: 045163-MW116
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 13:15
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 16:40
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	28		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	130		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	2.8		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	87		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	23		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-03 Date Collected: 04/18/23 13:15

Client ID: 045163-MW116 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	53		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	150		ug/l	1.0	--	1
1,2-Dichloroethene, Total	150		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-03 Date Collected: 04/18/23 13:15

Client ID: 045163-MW116 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	105		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-04
Client ID: 045163-MW900
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 12:00
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 17:06
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	27		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	130		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	2.8		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	86		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	23		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-04 Date Collected: 04/18/23 12:00

Client ID: 045163-MW900 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	54		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	150		ug/l	1.0	--	1
1,2-Dichloroethene, Total	150		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-04 Date Collected: 04/18/23 12:00

Client ID: 045163-MW900 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-05
Client ID: 045163-MW202
Sample Location: SOMERVILLE, MA
Date Collected: 04/18/23 09:55
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/28/23 17:32
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	12		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	1.2		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-05 Date Collected: 04/18/23 09:55

Client ID: 045163-MW202 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-05 Date Collected: 04/18/23 09:55

Client ID: 045163-MW202 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	107		70-130

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-06 Date Collected: 04/18/23 11:15
Client ID: 045163-GEO-1 Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 13:26
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	23		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-06 Date Collected: 04/18/23 11:15

Client ID: 045163-GEO-1 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	2.1		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-06 Date Collected: 04/18/23 11:15

Client ID: 045163-GEO-1 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	111		70-130

Project Name: TUFTS ST.
Lab Number: L2320701
Project Number: 045163
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-07
Client ID: 045163-GEO-2
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 13:40
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/19/23 15:28
Analyst: BJB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	ND		ug/l	2.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	ND		ug/l	0.500	--	1	A

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-07
Client ID: 045163-GEO-2
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 13:40
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 13:50
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	120		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	19		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	3.3		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-07 Date Collected: 04/18/23 13:40

Client ID: 045163-GEO-2 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	7.8		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-07 Date Collected: 04/18/23 13:40

Client ID: 045163-GEO-2 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	124		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-08
Client ID: 045163-MW901
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 12:01
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 14:15
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	120		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	16		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	2.7		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-08 Date Collected: 04/18/23 12:01

Client ID: 045163-MW901 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	6.8		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-08 Date Collected: 04/18/23 12:01

Client ID: 045163-MW901 Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-09
Client ID: 045163-MW121D
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 14:40
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 14:40
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	24		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	35		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	8.6		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	5.5		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-09 Date Collected: 04/18/23 14:40

Client ID: 045163-MW121D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	20		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	17		ug/l	1.0	--	1
1,2-Dichloroethene, Total	17		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-09 Date Collected: 04/18/23 14:40

Client ID: 045163-MW121D Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	114		70-130

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-10 Date Collected: 04/18/23 15:00
Client ID: 045163-MW121S Date Received: 04/18/23
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 04/30/23 15:04
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-10 Date Collected: 04/18/23 15:00

Client ID: 045163-MW121S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2320701

Project Number: 045163 **Report Date:** 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-10 Date Collected: 04/18/23 15:00

Client ID: 045163-MW121S Date Received: 04/18/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	116		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 04/19/23 09:18
Analyst: BJB

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 07 Batch: WG1768643-3						
Methane	ND		ug/l	2.00	--	A
Ethene	ND		ug/l	0.500	--	A
Ethane	ND		ug/l	0.500	--	A

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/28/23 08:44
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1772518-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/28/23 08:44
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1772518-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/28/23 08:44
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1772518-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	98		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/30/23 13:01
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 06-10 Batch: WG1773072-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/30/23 13:01
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 06-10 Batch: WG1773072-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 04/30/23 13:01
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 06-10 Batch: WG1773072-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	110		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 07 Batch: WG1768643-2									
Methane	105		-		80-120	-		25	A
Ethene	96		-		80-120	-		25	A
Ethane	94		-		80-120	-		25	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1772518-3 WG1772518-4								
Methylene chloride	90		87		70-130	3		20
1,1-Dichloroethane	90		88		70-130	2		20
Chloroform	91		88		70-130	3		20
Carbon tetrachloride	95		92		70-130	3		20
1,2-Dichloropropane	87		86		70-130	1		20
Dibromochloromethane	90		91		70-130	1		20
1,1,2-Trichloroethane	93		94		70-130	1		20
Tetrachloroethene	100		98		70-130	2		20
Chlorobenzene	93		96		70-130	3		20
Trichlorofluoromethane	94		92		70-130	2		20
1,2-Dichloroethane	86		85		70-130	1		20
1,1,1-Trichloroethane	92		90		70-130	2		20
Bromodichloromethane	90		87		70-130	3		20
trans-1,3-Dichloropropene	93		95		70-130	2		20
cis-1,3-Dichloropropene	84		84		70-130	0		20
1,1-Dichloropropene	92		90		70-130	2		20
Bromoform	86		89		70-130	3		20
1,1,2,2-Tetrachloroethane	90		93		70-130	3		20
Benzene	92		90		70-130	2		20
Toluene	95		96		70-130	1		20
Ethylbenzene	96		96		70-130	0		20
Chloromethane	93		88		70-130	6		20
Bromomethane	85		79		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1772518-3 WG1772518-4								
Vinyl chloride	100		94		70-130	6		20
Chloroethane	99		92		70-130	7		20
1,1-Dichloroethene	94		90		70-130	4		20
trans-1,2-Dichloroethene	93		90		70-130	3		20
Trichloroethene	91		89		70-130	2		20
1,2-Dichlorobenzene	92		92		70-130	0		20
1,3-Dichlorobenzene	96		94		70-130	2		20
1,4-Dichlorobenzene	94		93		70-130	1		20
Methyl tert butyl ether	82		84		70-130	2		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	90		90		70-130	0		20
Dibromomethane	87		88		70-130	1		20
1,2,3-Trichloropropane	88		91		70-130	3		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	100		95		70-130	5		20
Acetone	82		76		70-130	8		20
Carbon disulfide	97		91		70-130	6		20
Methyl ethyl ketone	86		87		70-130	1		20
Methyl isobutyl ketone	79		84		70-130	6		20
2-Hexanone	74		79		70-130	7		20
Bromochloromethane	98		93		70-130	5		20
Tetrahydrofuran	82		85		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1772518-3 WG1772518-4								
2,2-Dichloropropane	100		95		70-130	5		20
1,2-Dibromoethane	90		92		70-130	2		20
1,3-Dichloropropane	89		92		70-130	3		20
1,1,1,2-Tetrachloroethane	90		94		70-130	4		20
Bromobenzene	93		92		70-130	1		20
n-Butylbenzene	89		87		70-130	2		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	91		90		70-130	1		20
o-Chlorotoluene	98		96		70-130	2		20
p-Chlorotoluene	96		96		70-130	0		20
1,2-Dibromo-3-chloropropane	76		84		70-130	10		20
Hexachlorobutadiene	99		100		70-130	1		20
Isopropylbenzene	92		92		70-130	0		20
p-Isopropyltoluene	87		87		70-130	0		20
Naphthalene	74		76		70-130	3		20
n-Propylbenzene	100		97		70-130	3		20
1,2,3-Trichlorobenzene	80		84		70-130	5		20
1,2,4-Trichlorobenzene	80		80		70-130	0		20
1,3,5-Trimethylbenzene	93		92		70-130	1		20
1,2,4-Trimethylbenzene	90		90		70-130	0		20
Diethyl ether	85		87		70-130	2		20
Diisopropyl Ether	84		86		70-130	2		20
Ethyl-Tert-Butyl-Ether	84		86		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1772518-3 WG1772518-4								
Tertiary-Amyl Methyl Ether	82		84		70-130	2		20
1,4-Dioxane	82		88		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		90		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	103		98		70-130
Dibromofluoromethane	94		93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 06-10 Batch: WG1773072-3 WG1773072-4								
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	94		93		70-130	1		20
Chloroform	94		93		70-130	1		20
Carbon tetrachloride	95		99		70-130	4		20
1,2-Dichloropropane	91		90		70-130	1		20
Dibromochloromethane	87		96		70-130	10		20
1,1,2-Trichloroethane	90		98		70-130	9		20
Tetrachloroethene	90		100		70-130	11		20
Chlorobenzene	98		99		70-130	1		20
Trichlorofluoromethane	99		94		70-130	5		20
1,2-Dichloroethane	91		91		70-130	0		20
1,1,1-Trichloroethane	94		93		70-130	1		20
Bromodichloromethane	95		96		70-130	1		20
trans-1,3-Dichloropropene	93		100		70-130	7		20
cis-1,3-Dichloropropene	88		90		70-130	2		20
1,1-Dichloropropene	92		93		70-130	1		20
Bromoform	90		91		70-130	1		20
1,1,2,2-Tetrachloroethane	92		97		70-130	5		20
Benzene	95		96		70-130	1		20
Toluene	93		99		70-130	6		20
Ethylbenzene	98		100		70-130	2		20
Chloromethane	95		94		70-130	1		20
Bromomethane	92		90		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 06-10 Batch: WG1773072-3 WG1773072-4								
Vinyl chloride	100		100		70-130	0		20
Chloroethane	110		100		70-130	10		20
1,1-Dichloroethene	93		94		70-130	1		20
trans-1,2-Dichloroethene	94		95		70-130	1		20
Trichloroethene	94		95		70-130	1		20
1,2-Dichlorobenzene	92		95		70-130	3		20
1,3-Dichlorobenzene	96		100		70-130	4		20
1,4-Dichlorobenzene	96		97		70-130	1		20
Methyl tert butyl ether	88		91		70-130	3		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	94		95		70-130	1		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	91		92		70-130	1		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	94		91		70-130	3		20
Acetone	87		83		70-130	5		20
Carbon disulfide	96		96		70-130	0		20
Methyl ethyl ketone	92		93		70-130	1		20
Methyl isobutyl ketone	76		84		70-130	10		20
2-Hexanone	78		83		70-130	6		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	82		86		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 06-10 Batch: WG1773072-3 WG1773072-4								
2,2-Dichloropropane	100		100		70-130	0		20
1,2-Dibromoethane	91		97		70-130	6		20
1,3-Dichloropropane	90		96		70-130	6		20
1,1,1,2-Tetrachloroethane	99		100		70-130	1		20
Bromobenzene	92		95		70-130	3		20
n-Butylbenzene	87		89		70-130	2		20
sec-Butylbenzene	99		100		70-130	1		20
tert-Butylbenzene	89		92		70-130	3		20
o-Chlorotoluene	98		100		70-130	2		20
p-Chlorotoluene	96		100		70-130	4		20
1,2-Dibromo-3-chloropropane	83		86		70-130	4		20
Hexachlorobutadiene	98		100		70-130	2		20
Isopropylbenzene	89		94		70-130	5		20
p-Isopropyltoluene	86		88		70-130	2		20
Naphthalene	73		77		70-130	5		20
n-Propylbenzene	97		99		70-130	2		20
1,2,3-Trichlorobenzene	81		84		70-130	4		20
1,2,4-Trichlorobenzene	78		81		70-130	4		20
1,3,5-Trimethylbenzene	92		95		70-130	3		20
1,2,4-Trimethylbenzene	90		93		70-130	3		20
Diethyl ether	89		94		70-130	5		20
Diisopropyl Ether	89		91		70-130	2		20
Ethyl-Tert-Butyl-Ether	88		92		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 06-10 Batch: WG1773072-3 WG1773072-4								
Tertiary-Amyl Methyl Ether	86		90		70-130	5		20
1,4-Dioxane	80		92		70-130	14		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		94		70-130
Toluene-d8	97		102		70-130
4-Bromofluorobenzene	96		98		70-130
Dibromofluoromethane	95		95		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab 045163-GEO-1	Associated sample(s): 06-10		QC Batch ID: WG1773072-6			WG1773072-7			QC Sample: L2320701-06			Client ID:
Methylene chloride	ND	10	11	110		10	100		70-130	10		20
1,1-Dichloroethane	ND	10	10	100		11	110		70-130	10		20
Chloroform	ND	10	11	110		10	100		70-130	10		20
Carbon tetrachloride	ND	10	12	120		10	100		70-130	18		20
1,2-Dichloropropane	ND	10	10	100		10	100		70-130	0		20
Dibromochloromethane	ND	10	9.8	98		9.4	94		70-130	4		20
1,1,2-Trichloroethane	ND	10	10	100		10	100		70-130	0		20
Tetrachloroethene	23	10	34	110		30	70		70-130	13		20
Chlorobenzene	ND	10	10	100		9.7	97		70-130	3		20
Trichlorofluoromethane	ND	10	12	120		10	100		70-130	18		20
1,2-Dichloroethane	ND	10	10	100		10	100		70-130	0		20
1,1,1-Trichloroethane	ND	10	12	120		11	110		70-130	9		20
Bromodichloromethane	ND	10	11	110		11	110		70-130	0		20
trans-1,3-Dichloropropene	ND	10	9.9	99		9.9	99		70-130	0		20
cis-1,3-Dichloropropene	ND	10	9.9	99		8.8	88		70-130	12		20
1,1-Dichloropropene	ND	10	10	100		9.9	99		70-130	1		20
Bromoform	ND	10	9.3	93		9.2	92		70-130	1		20
1,1,2,2-Tetrachloroethane	ND	10	9.6	96		9.6	96		70-130	0		20
Benzene	ND	10	11	110		10	100		70-130	10		20
Toluene	ND	10	10	100		10	100		70-130	0		20
Ethylbenzene	ND	10	10	100		9.7	97		70-130	3		20
Chloromethane	ND	10	11	110		11	110		70-130	0		20
Bromomethane	ND	10	8.4	84		9.3	93		70-130	10		20

Matrix Spike Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab 045163-GEO-1	Associated sample(s): 06-10		QC Batch ID: WG1773072-6			WG1773072-7			QC Sample: L2320701-06			Client ID:
Vinyl chloride	ND	10	12	120		12	120		70-130	0		20
Chloroethane	ND	10	13	130		12	120		70-130	8		20
1,1-Dichloroethene	ND	10	11	110		11	110		70-130	0		20
trans-1,2-Dichloroethene	ND	10	11	110		10	100		70-130	10		20
Trichloroethene	2.1	10	14	119		13	109		70-130	7		20
1,2-Dichlorobenzene	ND	10	9.5	95		9.2	92		70-130	3		20
1,3-Dichlorobenzene	ND	10	10	100		9.6	96		70-130	4		20
1,4-Dichlorobenzene	ND	10	9.8	98		9.4	94		70-130	4		20
Methyl tert butyl ether	ND	10	9.2	92		9.6	96		70-130	4		20
p/m-Xylene	ND	20	22	110		21	105		70-130	5		20
o-Xylene	ND	20	22	110		21	105		70-130	5		20
cis-1,2-Dichloroethene	ND	10	10	100		10	100		70-130	0		20
Dibromomethane	ND	10	11	110		10	100		70-130	10		20
1,2,3-Trichloropropane	ND	10	9.3	93		9.4	94		70-130	1		20
Styrene	ND	20	23	115		22	110		70-130	4		20
Dichlorodifluoromethane	ND	10	11	110		10	100		70-130	10		20
Acetone	ND	10	9.0	90		9.0	90		70-130	0		20
Carbon disulfide	ND	10	12	120		11	110		70-130	9		20
Methyl ethyl ketone	ND	10	9.5	95		9.7	97		70-130	2		20
Methyl isobutyl ketone	ND	10	8.0	80		8.2	82		70-130	2		20
2-Hexanone	ND	10	7.0	70		7.6	76		70-130	8		20
Bromochloromethane	ND	10	11	110		10	100		70-130	10		20
Tetrahydrofuran	ND	10	8.8	88		8.5	85		70-130	3		20

Matrix Spike Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab 045163-GEO-1	Associated sample(s): 06-10		QC Batch ID: WG1773072-6			WG1773072-7			QC Sample: L2320701-06			Client ID:
2,2-Dichloropropane	ND	10	9.0	90		8.3	83		70-130	8		20
1,2-Dibromoethane	ND	10	9.5	95		9.3	93		70-130	2		20
1,3-Dichloropropane	ND	10	9.5	95		9.5	95		70-130	0		20
1,1,1,2-Tetrachloroethane	ND	10	10	100		10	100		70-130	0		20
Bromobenzene	ND	10	9.4	94		9.1	91		70-130	3		20
n-Butylbenzene	ND	10	8.9	89		8.2	82		70-130	8		20
sec-Butylbenzene	ND	10	10	100		9.6	96		70-130	4		20
tert-Butylbenzene	ND	10	9.4	94		8.6	86		70-130	9		20
o-Chlorotoluene	ND	10	10	100		9.7	97		70-130	3		20
p-Chlorotoluene	ND	10	9.9	99		9.4	94		70-130	5		20
1,2-Dibromo-3-chloropropane	ND	10	8.7	87		8.4	84		70-130	4		20
Hexachlorobutadiene	ND	10	10	100		9.7	97		70-130	3		20
Isopropylbenzene	ND	10	9.2	92		8.7	87		70-130	6		20
p-Isopropyltoluene	ND	10	8.8	88		8.2	82		70-130	7		20
Naphthalene	ND	10	7.0	70		7.3	73		70-130	4		20
n-Propylbenzene	ND	10	10	100		9.2	92		70-130	8		20
1,2,3-Trichlorobenzene	ND	10	8.0	80		8.1	81		70-130	1		20
1,2,4-Trichlorobenzene	ND	10	7.7	77		7.6	76		70-130	1		20
1,3,5-Trimethylbenzene	ND	10	9.6	96		9.0	90		70-130	6		20
1,2,4-Trimethylbenzene	ND	10	9.2	92		8.7	87		70-130	6		20
Diethyl ether	ND	10	9.5	95		9.9	99		70-130	4		20
Diisopropyl Ether	ND	10	9.1	91		9.5	95		70-130	4		20
Ethyl-Tert-Butyl-Ether	ND	10	9.4	94		9.4	94		70-130	0		20

Matrix Spike Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
MCP Volatile Organics - Westborough Lab Associated sample(s): 06-10 QC Batch ID: WG1773072-6 WG1773072-7 QC Sample: L2320701-06 Client ID: 045163-GEO-1												
Tertiary-Amyl Methyl Ether	ND	10	8.9	89		9.5	95		70-130	7		20
1,4-Dioxane	ND	500	380	76		430	86		70-130	12		20

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
1,2-Dichloroethane-d4	105		107		70-130
4-Bromofluorobenzene	94		95		70-130
Dibromofluoromethane	106		101		70-130
Toluene-d8	104		103		70-130

METALS

Project Name: TUFTS ST.
Lab Number: L2320701
Project Number: 045163
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-07
Client ID: 045163-GEO-2
Sample Location: SOMERVILLE, MA
Date Collected: 04/18/23 13:40
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Manganese, Total	ND		mg/l	0.0100	--	1	04/25/23 01:00	04/25/23 20:22	EPA 3005A	97,6010D	JMF

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 07 Batch: WG1769552-1										
Manganese, Total	ND		mg/l	0.0100	--	1	04/25/23 01:00	04/25/23 20:08	97,6010D	JMF

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 07 Batch: WG1769552-2 WG1769552-3								
Manganese, Total	101		103		80-120	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

SAMPLE RESULTS

Lab ID: L2320701-07
Client ID: 045163-GEO-2
Sample Location: SOMERVILLE, MA

Date Collected: 04/18/23 13:40
Date Received: 04/18/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	27.0		mg CaCO3/L	2.00	NA	1	-	05/01/23 15:37	121,2320B	MKT
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/19/23 09:00	121,4500CL-D	JRO
Chloride	270		mg/l	10	--	10	-	05/01/23 21:13	1,9251	TLH
Nitrogen, Nitrate	3.05		mg/l	0.100	--	1	-	04/20/23 07:52	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	3.0		mg/l	0.10	--	1	-	04/20/23 07:52	121,4500NO3-F	KAF
Total Nitrogen	3.0		mg/l	0.30	--	1	-	05/02/23 14:25	107,-	MRM
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	--	1	04/27/23 20:22	05/02/23 13:14	121,4500NH3-H	AAA
Sulfate	12.		mg/l	10	--	1	04/28/23 17:41	04/28/23 17:41	1,9038	SAD
Total Organic Carbon	ND		mg/l	0.50	--	1	-	04/27/23 03:06	1,9060A	DEW
Surfactants, MBAS	ND		mg/l	0.050	--	1	04/19/23 05:30	04/19/23 07:35	121,5540C	QJM
Iron, Ferrous	ND		mg/l	0.50	--	1	-	04/19/23 09:36	121,3500FE-B	KEP

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1768365-1										
Surfactants, MBAS	ND		mg/l	0.050	--	1	04/19/23 05:30	04/19/23 07:30	121,5540C	QJM
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1768505-1										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	04/19/23 09:34	121,3500FE-B	KEP
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1768524-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/19/23 09:00	121,4500CL-D	JRO
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1768823-1										
Nitrogen, Nitrate	ND		mg/l	0.100	--	1	-	04/20/23 04:01	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1768827-1										
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	04/20/23 04:01	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1771682-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	04/27/23 03:06	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1772050-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	--	1	04/27/23 20:22	05/02/23 13:09	121,4500NH3-H	AAA
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1772579-1										
Sulfate	ND		mg/l	10	--	1	04/28/23 17:41	04/28/23 17:41	1,9038	SAD
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1773303-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	05/01/23 15:17	121,2320B	MKT
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1773370-1										
Chloride	ND		mg/l	1.0	--	1	-	05/01/23 20:38	1,9251	TLH

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1768365-2								
Surfactants, MBAS	102		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1768505-2								
Iron, Ferrous	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1768524-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1768823-2								
Nitrogen, Nitrate	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1768827-2								
Nitrogen, Nitrate/Nitrite	96		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1771682-2								
Total Organic Carbon	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1772050-2								
Nitrogen, Total Kjeldahl	96		-		78-122	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1772579-2					
Sulfate	95	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1773303-2					
Alkalinity, Total	99	-	90-110	-	10
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1773370-2					
Chloride	97	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768365-4 QC Sample: L2320701-07 Client ID: 045163-GEO-2												
Surfactants, MBAS	ND	0.4	0.320	80		-	-		52-157	-		32
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768505-4 QC Sample: L2320701-07 Client ID: 045163-GEO-2												
Iron, Ferrous	ND	1	0.62	**62**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768823-4 QC Sample: L2320701-07 Client ID: 045163-GEO-2												
Nitrogen, Nitrate	3.05	4	6.57	88		-	-		83-113	-		17
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768827-4 QC Sample: L2320701-07 Client ID: 045163-GEO-2												
Nitrogen, Nitrate/Nitrite	3.0	4	6.6	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1772579-4 QC Sample: L2320701-07 Client ID: 045163-GEO-2												
Sulfate	12	40	51	98		-	-		55-147	-		14

Lab Duplicate Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2320701

Report Date: 05/02/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768505-3 QC Sample: L2320701-07 Client ID: 045163-GEO-2						
Iron, Ferrous	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768823-3 QC Sample: L2320701-07 Client ID: 045163-GEO-2						
Nitrogen, Nitrate	3.05	3.02	mg/l	1		17
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1768827-3 QC Sample: L2320701-07 Client ID: 045163-GEO-2						
Nitrogen, Nitrate/Nitrite	3.0	3.0	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1772579-3 QC Sample: L2320701-07 Client ID: 045163-GEO-2						
Sulfate	12	10	mg/l	**18**	Q	14

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2320701
Report Date: 05/02/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2320701-01A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-01B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-01C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-02A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-02B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-02C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-03A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-03B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-03C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-04A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-04B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-04C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-05A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-05B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-05C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06A1	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06A2	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06B1	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06B2	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-06C1	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2320701-06C2	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-07A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-07B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-07C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-07D	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L2320701-07E	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L2320701-07F	20ml Vial HCl preserved	A	NA		4.2	Y	Absent		DISSGAS(14)
L2320701-07G	20ml Vial HCl preserved	A	NA		4.2	Y	Absent		DISSGAS(14)
L2320701-07H	Plastic 250ml unpreserved/No Headspace	A	NA		4.2	Y	Absent		ALK-T-2320(14)
L2320701-07I	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	4.2	Y	Absent		SUB-SULFIDE()
L2320701-07J	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	4.2	Y	Absent		SUB-SULFIDE()
L2320701-07K	Plastic 250ml H2SO4 preserved	A	<2	<2	4.2	Y	Absent		TKN-4500(28),NO3/NO2-4500(28),TNITROGEN(28)
L2320701-07L	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		MCP-MN-6010T-10(180)
L2320701-07M	Plastic 950ml unpreserved	A	7	7	4.2	Y	Absent		CL-9251(28),SO4-9038(28),NO3-4500(2),TRC-4500(1),MBAS-5540(2),FERROUS(1)
L2320701-07N	Plastic 950ml unpreserved	A	7	7	4.2	Y	Absent		CL-9251(28),SO4-9038(28),NO3-4500(2),TRC-4500(1),MBAS-5540(2),FERROUS(1)
L2320701-08A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-08B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-08C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-09A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-09B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-09C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-10A	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-10B	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)
L2320701-10C	Vial HCl preserved	A	NA		4.2	Y	Absent		MCP-8260-21(14)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2320701
Project Number:	045163	**Report Date:**	05/02/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2320701
Project Number:	045163	**Report Date:**	05/02/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2320701
Project Number:	045163	**Report Date:**	05/02/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2320701
Report Date: 05/02/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

107 Alpha Analytical - In-house calculation method.

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain-of-Custody Record

Laboratory: ~~[illegible]~~ Alpha

Laboratory Job # (Lab use only) L2320701

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Tufts St
Project Location: Somerville, MA
Project Number: 045163
Project Manager: Chris Coner
Send Report to: Chris Coner, Molly Forrest
labdata@geiconsultants.com

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MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Sample Handling: Samples Field Filtered: YES (NO) NA; Sampled Shipped With Ice: (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative: HCl	HCl	none	Alkalinity, Cl-, TPH-FII, N, NO3, SO4, sulfides	Sulfide	TOC	Manganese	NO2+NO3 as N	Sample Specific Remarks
20701-01	045163-MW1205	4/18/23	11:05	GW	3	DJM	X								
02	045163-MW1200	4/18/23	10:45	GW	3	DJM	X								
03	045163-MW116	4/18/23	15:15	GW	3	DJM	X								
04	045163-MW900	4/18/23	12:06	GW	3	DJM	X								
05	045163-MW202	4/18/23	09:55	GW	3	CWS	X								
06	045163-GEO-1	4/18/23	11:15	GW	9	CWS	X								MS/MSD
07	045163-GEO-2	4/18/23	13:40	GW	13	CWS	X	X	X	X	X	X	X		
08	045163-MW901	4/18/23	12:01	GW	3	CWS	X								
	~~045163-MW1145~~	~~4/17/23~~													
	~~045163-MW1194~~	~~4/17/23~~													
09	045163-MW1210	4/18/23	14:40	GW	3	JLF	X								
10	045163-MW1215	4/18/23	15:00	GW	3	JLF	X								

	Signature	Date	Time	Received by: (signature)
Relinquished by sampler:		4/18/23	15:40	1.
Relinquished by sampler:		4/18	17:46	2.
Relinquished by:				3.
Relinquished by:				4.
Relinquished by:				5.

Turnaround Time (Business days):
Normal X 4-Day ____ 3-Day ____
2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

Method Blank Summary
Form 4
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2320701
Project Name	: TUFTS ST.	**Project Number**	: 045163
Lab Sample ID	: WG1772518-5	**Lab File ID**	: V16230428A04
Instrument ID	: VOA116		
Matrix	: WATER	**Analysis Date**	: 04/28/23 08:44

Client Sample No.	Lab Sample ID	Analysis Date
WG1772518-3LCS	WG1772518-3	04/28/23 07:31
WG1772518-4LCSD	WG1772518-4	04/28/23 07:55
045163-MW120S	L2320701-01	04/28/23 15:50
045163-MW120D	L2320701-02	04/28/23 16:15
045163-MW116	L2320701-03	04/28/23 16:40
045163-MW900	L2320701-04	04/28/23 17:06
045163-MW202	L2320701-05	04/28/23 17:32

Method Blank Summary
Form 4
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2320701
Project Name	: TUFTS ST.	**Project Number**	: 045163
Lab Sample ID	: WG1773072-5	**Lab File ID**	: V16230430A05
Instrument ID	: VOA116		
Matrix	: WATER	**Analysis Date**	: 04/30/23 13:01

Client Sample No.	Lab Sample ID	Analysis Date
WG1773072-3LCS	WG1773072-3	04/30/23 11:23
WG1773072-4LCSD	WG1773072-4	04/30/23 11:48
045163-GEO-1	L2320701-06	04/30/23 13:26
045163-GEO-2	L2320701-07	04/30/23 13:50
045163-MW901	L2320701-08	04/30/23 14:15
045163-MW121D	L2320701-09	04/30/23 14:40
045163-MW121S	L2320701-10	04/30/23 15:04
045163-GEO-1MS	WG1773072-6	04/30/23 21:38
045163-GEO-1MSD	WG1773072-7	04/30/23 22:03

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320701	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 04/28/23 07:31	
Lab File ID	: V16230428A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1772518-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	109	0
Dichlorodifluoromethane	0.25	0.249	-	0.4	20	105	0
Chloromethane	0.423	0.392	-	7.3	20	102	0
Vinyl chloride	0.31	0.309	-	0.3	20	109	0
Bromomethane	0.179	0.152	-	15.1	20	99	0
Chloroethane	0.193	0.191	-	1	20	107	0
Trichlorofluoromethane	0.403	0.38	-	5.7	20	101	0
Ethyl ether	0.118	0.1	-	15.3	20	96	0
1,1-Dichloroethene	0.246	0.231	-	6.1	20	103	0
Carbon disulfide	0.816	0.794	-	2.7	20	108	0
Freon-113	0.287	0.28	-	2.4	20	106	0
Iodomethane	10	9.344	-	6.6	20	131	0
Acrolein	10	8.965	-	10.4	20	111	0
Methylene chloride	0.296	0.266	-	10.1	20	100	0
Acetone	0.082	0.068	-	17.1	20	91	0
trans-1,2-Dichloroethene	0.276	0.256	-	7.2	20	103	0
Methyl acetate	0.187	0.161	-	13.9	20	93	0
Methyl tert-butyl ether	0.587	0.485	-	17.4	20	95	0
tert-Butyl alcohol	0.017	0.014	-	17.6	20	97	0
Diisopropyl ether	1.205	1.018	-	15.5	20	94	0
1,1-Dichloroethane	0.62	0.559	-	9.8	20	97	0
Halothane	0.227	0.211	-	7	20	103	0
Acrylonitrile	0.092	0.077	-	16.3	20	92	0
Ethyl tert-butyl ether	0.951	0.8	-	15.9	20	94	0
Vinyl acetate	0.572	0.609	-	-6.5	20	156	0
cis-1,2-Dichloroethene	0.302	0.273	-	9.6	20	99	0
2,2-Dichloropropane	0.404	0.403	-	0.2	20	119	0
Bromochloromethane	0.123	0.12	-	2.4	20	99	0
Cyclohexane	0.644	0.615	-	4.5	20	104	0
Chloroform	0.567	0.515	-	9.2	20	98	0
Ethyl acetate	0.266	0.217	-	18.4	20	88	0
Carbon tetrachloride	0.423	0.403	-	4.7	20	101	0
Tetrahydrofuran	0.093	0.076	-	18.3	20	91	0
Dibromofluoromethane	0.291	0.274	-	5.8	20	108	0
1,1,1-Trichloroethane	0.452	0.414	-	8.4	20	100	0
2-Butanone	0.116	0.1	-	13.8	20	92	0
1,1-Dichloropropene	0.39	0.36	-	7.7	20	102	0
Benzene	1.139	1.051	-	7.7	20	98	0
tert-Amyl methyl ether	0.665	0.545	-	18	20	93	0
1,2-Dichloroethane-d4	0.359	0.334	-	7	20	106	0
1,2-Dichloroethane	0.437	0.374	-	14.4	20	94	0
Methyl cyclohexane	0.498	0.472	-	5.2	20	105	0
Trichloroethene	0.311	0.282	-	9.3	20	90	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320701	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 04/28/23 07:31	
Lab File ID	: V16230428A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1772518-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.162	0.141	-	13	20	93	0
1,2-Dichloropropane	0.349	0.305	-	12.6	20	96	0
2-Chloroethyl vinyl ether	0.149	0.112	-	24.8*	20	88	0
Bromodichloromethane	0.453	0.406	-	10.4	20	96	0
1,4-Dioxane	0.00133	0.00109*	-	18	20	97	0
cis-1,3-Dichloropropene	0.462	0.388	-	16	20	87	0
Chlorobenzene-d5	1	1	-	0	20	109	0
Toluene-d8	1.29	1.308	-	-1.4	20	109	0
Toluene	0.936	0.889	-	5	20	99	0
4-Methyl-2-pentanone	0.114	0.09	-	21.1*	20	91	0
Tetrachloroethene	0.402	0.406	-	-1	20	103	0
trans-1,3-Dichloropropene	0.511	0.475	-	7	20	95	0
Ethyl methacrylate	0.392	0.3	-	23.5*	20	92	0
1,1,2-Trichloroethane	0.263	0.244	-	7.2	20	93	0
Chlorodibromomethane	0.378	0.339	-	10.3	20	97	0
1,3-Dichloropropane	0.545	0.485	-	11	20	92	0
1,2-Dibromoethane	0.294	0.263	-	10.5	20	93	0
2-Hexanone	0.21	0.157	-	25.2*	20	89	0
Chlorobenzene	1.024	0.95	-	7.2	20	98	0
Ethylbenzene	1.728	1.655	-	4.2	20	100	0
1,1,1,2-Tetrachloroethane	0.381	0.342	-	10.2	20	94	0
p/m Xylene	0.649	0.648	-	0.2	20	100	0
o Xylene	0.616	0.592	-	3.9	20	98	0
Styrene	1.027	1.013	-	1.4	20	96	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	108	0
Bromoform	0.407	0.35	-	14	20	92	0
Isopropylbenzene	3.111	2.866	-	7.9	20	100	0
4-Bromofluorobenzene	0.86	0.882	-	-2.6	20	113	0
Bromobenzene	0.755	0.705	-	6.6	20	100	0
n-Propylbenzene	3.738	3.731	-	0.2	20	103	0
1,4-Dichlorobutane	1.199	1.058	-	11.8	20	91	0
1,1,2,2-Tetrachloroethane	0.676	0.608	-	10.1	20	101	0
4-Ethyltoluene	3.128	2.908	-	7	20	101	0
2-Chlorotoluene	2.609	2.557	-	2	20	99	0
1,3,5-Trimethylbenzene	2.655	2.471	-	6.9	20	101	0
1,2,3-Trichloropropane	0.55	0.485	-	11.8	20	91	0
trans-1,4-Dichloro-2-buten	0.251	0.214	-	14.7	20	94	0
4-Chlorotoluene	2.311	2.228	-	3.6	20	100	0
tert-Butylbenzene	2.245	2.051	-	8.6	20	101	0
1,2,4-Trimethylbenzene	2.529	2.277	-	10	20	99	0
sec-Butylbenzene	3.486	3.492	-	-0.2	20	100	0
p-Isopropyltoluene	10	8.739	-	12.6	20	102	0
1,3-Dichlorobenzene	1.477	1.415	-	4.2	20	99	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320701	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 04/28/23 07:31	
Lab File ID	: V16230428A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1772518-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.485	1.395	-	6.1	20	100	0
p-Diethylbenzene	1.588	1.394	-	12.2	20	105	0
n-Butylbenzene	10	8.92	-	10.8	20	106	0
1,2-Dichlorobenzene	1.364	1.257	-	7.8	20	97	0
1,2,4,5-Tetramethylbenzene	10	8.259	-	17.4	20	109	0
1,2-Dibromo-3-chloropropan	0.096	0.073	-	24*	20	83	0
1,3,5-Trichlorobenzene	0.865	0.784	-	9.4	20	101	0
Hexachlorobutadiene	0.314	0.311	-	1	20	109	0
1,2,4-Trichlorobenzene	0.733	0.584	-	20.3*	20	101	0
Naphthalene	10	7.404	-	26*	20	98	0
1,2,3-Trichlorobenzene	0.638	0.511	-	19.9	20	98	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320701	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 04/30/23 11:23	
Lab File ID	: V16230430A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1773072-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	104	0
Dichlorodifluoromethane	0.25	0.234	-	6.4	20	94	0
Chloromethane	0.423	0.4	-	5.4	20	99	0
Vinyl chloride	0.31	0.312	-	-0.6	20	105	0
Bromomethane	0.179	0.164	-	8.4	20	102	0
Chloroethane	0.193	0.206	-	-6.7	20	111	0
Trichlorofluoromethane	0.403	0.399	-	1	20	101	0
Ethyl ether	0.118	0.105	-	11	20	96	0
1,1-Dichloroethene	0.246	0.228	-	7.3	20	97	0
Carbon disulfide	0.816	0.785	-	3.8	20	102	0
Freon-113	0.287	0.271	-	5.6	20	98	0
Methylene chloride	0.296	0.273	-	7.8	20	97	0
Acetone	0.082	0.072	-	12.2	20	92	0
trans-1,2-Dichloroethene	0.276	0.26	-	5.8	20	100	0
Methyl acetate	0.187	0.175	-	6.4	20	96	0
Methyl tert-butyl ether	0.587	0.515	-	12.3	20	96	0
tert-Butyl alcohol	0.017	0.015	-	11.8	20	98	0
Diisopropyl ether	1.205	1.071	-	11.1	20	95	0
1,1-Dichloroethane	0.62	0.581	-	6.3	20	97	0
Halothane	0.227	0.213	-	6.2	20	99	0
Acrylonitrile	0.092	0.084	-	8.7	20	95	0
Ethyl tert-butyl ether	0.951	0.842	-	11.5	20	94	0
Vinyl acetate	0.572	0.649	-	-13.5	20	159	0
cis-1,2-Dichloroethene	0.302	0.283	-	6.3	20	98	0
2,2-Dichloropropane	0.404	0.411	-	-1.7	20	116	0
Bromochloromethane	0.123	0.127	-	-3.3	20	99	0
Cyclohexane	0.644	0.596	-	7.5	20	95	0
Chloroform	0.567	0.534	-	5.8	20	97	0
Ethyl acetate	0.266	0.235	-	11.7	20	91	0
Carbon tetrachloride	0.423	0.403	-	4.7	20	97	0
Tetrahydrofuran	0.093	0.077	-	17.2	20	87	0
Dibromofluoromethane	0.291	0.277	-	4.8	20	104	0
1,1,1-Trichloroethane	0.452	0.422	-	6.6	20	97	0
2-Butanone	0.116	0.107	-	7.8	20	94	0
1,1-Dichloropropene	0.39	0.358	-	8.2	20	96	0
Benzene	1.139	1.084	-	4.8	20	97	0
tert-Amyl methyl ether	0.665	0.574	-	13.7	20	93	0
1,2-Dichloroethane-d4	0.359	0.336	-	6.4	20	102	0
1,2-Dichloroethane	0.437	0.4	-	8.5	20	96	0
Methyl cyclohexane	0.498	0.463	-	7	20	98	0
Trichloroethene	0.311	0.291	-	6.4	20	89	0
Dibromomethane	0.162	0.149	-	8	20	93	0
1,2-Dichloropropane	0.349	0.318	-	8.9	20	96	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320701	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 04/30/23 11:23	
Lab File ID	: V16230430A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1773072-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.453	0.429	-	5.3	20	97	0
1,4-Dioxane	0.00133	0.00108*	-	18.8	20	91	0
cis-1,3-Dichloropropene	0.462	0.405	-	12.3	20	87	0
Chlorobenzene-d5	1	1	-	0	20	103	0
Toluene-d8	1.29	1.254	-	2.8	20	99	0
Toluene	0.936	0.874	-	6.6	20	92	0
4-Methyl-2-pentanone	0.114	0.086	-	24.6*	20	83	0
Tetrachloroethene	0.402	0.36	-	10.4	20	87	0
trans-1,3-Dichloropropene	0.511	0.474	-	7.2	20	90	0
Ethyl methacrylate	0.392	0.291	-	25.8*	20	84	0
1,1,2-Trichloroethane	0.263	0.236	-	10.3	20	85	0
Chlorodibromomethane	0.378	0.329	-	13	20	89	0
1,3-Dichloropropane	0.545	0.491	-	9.9	20	89	0
1,2-Dibromoethane	0.294	0.269	-	8.5	20	90	0
2-Hexanone	0.21	0.163	-	22.4*	20	87	0
Chlorobenzene	1.024	1.005	-	1.9	20	98	0
Ethylbenzene	1.728	1.687	-	2.4	20	96	0
1,1,1,2-Tetrachloroethane	0.381	0.377	-	1	20	98	0
p/m Xylene	0.649	0.668	-	-2.9	20	98	0
o Xylene	0.616	0.618	-	-0.3	20	97	0
Styrene	1.027	1.074	-	-4.6	20	97	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	107	0
Bromoform	0.407	0.368	-	9.6	20	96	0
Isopropylbenzene	3.111	2.763	-	11.2	20	96	0
4-Bromofluorobenzene	0.86	0.824	-	4.2	20	105	0
Bromobenzene	0.755	0.693	-	8.2	20	98	0
n-Propylbenzene	3.738	3.615	-	3.3	20	98	0
1,4-Dichlorobutane	1.199	1.095	-	8.7	20	93	0
1,1,2,2-Tetrachloroethane	0.676	0.621	-	8.1	20	103	0
4-Ethyltoluene	3.128	2.867	-	8.3	20	99	0
2-Chlorotoluene	2.609	2.558	-	2	20	98	0
1,3,5-Trimethylbenzene	2.655	2.455	-	7.5	20	100	0
1,2,3-Trichloropropane	0.55	0.498	-	9.5	20	93	0
trans-1,4-Dichloro-2-buten	0.251	0.234	-	6.8	20	102	0
4-Chlorotoluene	2.311	2.209	-	4.4	20	98	0
tert-Butylbenzene	2.245	1.997	-	11	20	98	0
1,2,4-Trimethylbenzene	2.529	2.289	-	9.5	20	98	0
sec-Butylbenzene	3.486	3.441	-	1.3	20	98	0
p-Isopropyltoluene	10	8.592	-	14.1	20	99	0
1,3-Dichlorobenzene	1.477	1.418	-	4	20	98	0
1,4-Dichlorobenzene	1.485	1.424	-	4.1	20	101	0
p-Diethylbenzene	1.588	1.338	-	15.7	20	100	0
n-Butylbenzene	10	8.677	-	13.2	20	102	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2320701	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 04/30/23 11:23	
Lab File ID	: V16230430A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1773072-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichlorobenzene	1.364	1.262	-	7.5	20	96	0
1,2,4,5-Tetramethylbenzene	10	8.009	-	19.9	20	104	0
1,2-Dibromo-3-chloropropan	0.096	0.08	-	16.7	20	89	0
1,3,5-Trichlorobenzene	0.865	0.795	-	8.1	20	102	0
Hexachlorobutadiene	0.314	0.307	-	2.2	20	107	0
1,2,4-Trichlorobenzene	0.733	0.576	-	21.4*	20	99	0
Naphthalene	10	7.285	-	27.1*	20	95	0
1,2,3-Trichlorobenzene	0.638	0.517	-	19	20	98	0

*** Value outside of QC limits.**

PHOENIX
Environmental Laboratories, Inc.

Wednesday, April 26, 2023

Attn: Jennifer Byrnes
Alpha Analytical Lab
8 Walkup Drive
Westborough, MA 01581

Project ID: **L2320701**
SDG ID: **GCN86651**
Sample ID#s: **CN86651**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

April 26, 2023

SDG I.D.: GCN86651

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Version 2: Revised client id per client request

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

April 26, 2023

SDG I.D.: GCN86651

Project ID: L2320701

Client Id	Lab Id	Matrix
045163-GEO-2	CN86651	WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 26, 2023

FOR: Attn: Jennifer Byrnes
Alpha Analytical Lab
8 Walkup Drive
Westborough, MA 01581

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/18/23	13:40
Location Code:	ALPHA	Received by:	SW	04/19/23	14:24
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCN86651
Phoenix ID: CN86651

Project ID: L2320701
Client ID: 045163-GEO-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Sulfide	< 0.05	0.05	mg/L	1	04/24/23	GD	SM4500S-D-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
April 26, 2023
Reviewed and Released by: Sarah Bell, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

April 26, 2023

QA/QC Data

SDG I.D.: GCN86651

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 674243 (mg/L), QC Sample No: CN86651 (CN86651)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	90.0			97.3			90 - 110	20

Comment:

Additional: LCS acceptance range is 90-110% MS acceptance range 75-125%.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
April 26, 2023

Wednesday, April 26, 2023

Criteria: MA: CAM

State: MA

Sample Criteria Exceedances Report

GCN86651 - ALPHA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: L2320701 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
CN86651

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: WATER

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes ☐ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: Ethan Lee

Date: Wednesday, April 26, 2023

Printed Name: Ethan Lee

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

April 26, 2023

SDG I.D.: GCN86651

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 04/24/23-1 Greg Danielewski, Chemist 04/24/23

CN86651

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 674243 (CN86651)

CN86651

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 90-110% MS acceptance range 75-125%.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

1.8°C wca

Subcontract Chain of Custody

Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040

Alpha Job Number
L2320701

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 716.427.5228 Email: jbymes@alphalab.com	Project Location: MA Project Manager: Jennifer Byrnes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: MA-MCP Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2320701

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
86651	045163-GEO-2	04-18-23 13:40	WATER	Sulfide 2-250mL Plastic	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		4/19/23		4/19/23 935
		4/19/23 1347	Emily A	4/19/23 1429
Form No: AL_subcoc				

Serial_No:05022315:15

ANALYTICAL REPORT

Lab Number:	L2322751
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	05/04/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2322751-01	045163-10MORT-SS1	SOIL_VAPOR	SOMERVILLE MA	04/24/23 13:55	04/27/23
L2322751-02	045163-10MORT-SS2	SOIL_VAPOR	SOMERVILLE MA	04/24/23 13:56	04/27/23
L2322751-03	045163-10MORT-SS3	SOIL_VAPOR	SOMERVILLE MA	04/24/23 13:57	04/27/23
L2322751-04	045163-10MORT-SS4	SOIL_VAPOR	SOMERVILLE MA	04/24/23 13:48	04/27/23

Project Name: TUFTS ST. **Lab Number:** L2322751

Project Number: 045163 **Report Date:** 05/04/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2322751
Project Number:	045163	**Report Date:**	05/04/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TUFTS ST.	**Lab Number:**	L2322751
Project Number:	045163	**Report Date:**	05/04/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on April 20, 2023. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 05/04/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-01
Client ID: 045163-10MORT-SS1
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:55
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 20:55
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.052	0.020	--	0.353	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-02
Client ID: 045163-10MORT-SS2
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:56
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 21:34
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.060	0.020	--	0.407	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-03
Client ID: 045163-10MORT-SS3
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:57
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 22:13
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.180	0.020	--	1.22	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

SAMPLE RESULTS

Lab ID: L2322751-04
Client ID: 045163-10MORT-SS4
Sample Location: SOMERVILLE MA

Date Collected: 04/24/23 13:48
Date Received: 04/27/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 23:32
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.042	0.020	--	0.285	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	92		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 05/02/23 16:21

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1773901-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2322751

Report Date: 05/04/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1773901-3								
Vinyl chloride	73		-		70-130	-		
1,1-Dichloroethene	79		-		70-130	-		
trans-1,2-Dichloroethene	75		-		70-130	-		
1,1-Dichloroethane	78		-		70-130	-		
cis-1,2-Dichloroethene	80		-		70-130	-		
1,1,1-Trichloroethane	100		-		70-130	-		
Trichloroethene	90		-		70-130	-		
1,1,2-Trichloroethane	100		-		70-130	-		
Tetrachloroethene	87		-		70-130	-		
1,1,2,2-Tetrachloroethane	97		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1773901-5 QC Sample: L2322751-03 Client ID: 045163-10MORT-SS3						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.180	0.172	ppbV	5		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS ST.

Lab Number: L2322751

Project Number: 045163

Report Date: 05/04/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2322751-01	045163-10MORT-SS1	01521	Flow 2	04/20/23	421509		-	-	-	Pass	36.0	35.0	3
L2322751-01	045163-10MORT-SS1	446	2.7L Can	04/20/23	421509	L2318990-01	Pass	-30.1	-5.8	-	-	-	-
L2322751-02	045163-10MORT-SS2	01016	Flow 2	04/20/23	421509		-	-	-	Pass	36.0	35.6	1
L2322751-02	045163-10MORT-SS2	2734	2.7L Can	04/20/23	421509	L2318990-01	Pass	-30.0	-5.2	-	-	-	-
L2322751-03	045163-10MORT-SS3	01733	Flow 2	04/20/23	421509		-	-	-	Pass	36.0	35.6	1
L2322751-03	045163-10MORT-SS3	414	2.7L Can	04/20/23	421509	L2318990-01	Pass	-30.0	-3.4	-	-	-	-
L2322751-04	045163-10MORT-SS4	0193	Flow 2	04/20/23	421509		-	-	-	Pass	36.0	36.9	2
L2322751-04	045163-10MORT-SS4	2215	2.7L Can	04/20/23	421509	L2318990-01	Pass	-29.8	-3.0	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/11/23 18:30
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2318990

Project Number: CANISTER QC BAT **Report Date:** 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	101		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/11/23 18:30
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2318990
Report Date: 05/04/23

Air Canister Certification Results

Lab ID: L2318990-01
Client ID: CAN 2873 SHELF 20
Sample Location:

Date Collected: 04/10/23 18:00
Date Received: 04/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	103		60-140
chlorobenzene-d5	97		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2322751
Report Date: 05/04/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2322751-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2322751-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2322751-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2322751-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2322751
Project Number:	045163	**Report Date:**	05/04/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2322751
Project Number:	045163	**Report Date:**	05/04/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2322751
Project Number:	045163	**Report Date:**	05/04/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial_No:05042314:35

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/27/23

ALPHA Job #: L2322751

Client Information

Client: GEI Consultants Inc
Address: 400 Unicorn Park Dr.
Woburn MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com
cloner@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville MA
Project #: 045163
Project Manager: Chris Loner
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒ See attached list

All Columns Below Must Be Filled Out

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
22751-01	045163-10Mrt-SS1	4/24/23	1255	1355	-30.32	-7.25	SV	CWS	2.7L	446	01521	X						
-02	045163-10Mrt-SS2	4/24/23	1256	1356	-30.00	-6.53	SV	CWS	2.7L	2734	01016	X						
-03	045163-10Mrt-SS3	4/24/23	1257	1357	-30.32	-4.99	SV	CWS	2.7L	414	01733	X						
-04	045163-10Mrt-SS4	4/24/23	1258	1348	-30.27	-4.68	SV	CWS	2.7L	2215	0193	X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Chris Loner	4/24/23 @ 1430	GEI Field Room	4/27/23 1113
Field Room	4/27/23 1113	Chad F.	4/27/23 1113
Chad F.	4/27/23 1113	Eric Woods AM	4/27/23 1113
R. Mandy 4/27/23 1530	4/27/23 1620	Eric Woods AM	4/27/23 1620

Rachel Cloner - 4/27/23 19:50

R. Mandy 4/27/23 1530

ANALYTICAL REPORT

Lab Number:	L2326258
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	05/25/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326258-01	045163-MW112A	WATER	SOMERVILLE, MA	05/11/23 13:10	05/11/23

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2326258
Project Number:	045163	**Report Date:**	05/25/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS ST. **Lab Number:** L2326258
Project Number: 045163 **Report Date:** 05/25/23

Case Narrative (continued)

Report Submission

The analysis of Sulfide was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

MCP Related Narratives

Sample Receipt

The analyses performed were specified by the client.

Volatile Organics

In reference to question G:

L2326258-01D: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L2326258-01D: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0012)

Average Response Factor: 1,4-dioxane

L2326258-01D: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Total Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Non-MCP Related Narratives

Chlorine, Total Residual

The WG1778222-8 MS recovery, performed on L2326258-01, is outside the acceptance criteria for chlorine,

Project Name:	TUFTS ST.	**Lab Number:**	L2326258
Project Number:	045163	**Report Date:**	05/25/23

Case Narrative (continued)

total residual (72%); however, the associated LCS recovery is within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 05/25/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1779305-3	Bromomethane	LCS	57	70-130	01	potential low bias
8260D	Batch QC	WG1779305-4	Bromomethane	LCSD	59	70-130	01	potential low bias
8260D	Batch QC	WG1779305-4	2-Hexanone	LCSD	22	20	01	non-directional bias
8260D	Batch QC	WG1779305-4	1,4-Dioxane	LCSD	27	20	01	non-directional bias
8260D	Batch QC	WG1779305-4	1,4-Dioxane	LCSD	152	70-130	01	potential high bias
General Chemistry - Westborough Lab								
4500CL-D	Batch QC (L2326258-01)	WG1778222-8	Chlorine, Total Residual	MS	72	80-120	01	potential low bias

ORGANICS

VOLATILES

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 05/19/23 07:53
Analyst: SRO

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	3.94		ug/l	2.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	ND		ug/l	0.500	--	1	A

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01 D
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 05/15/23 15:22
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	4.0	--	2
1,1-Dichloroethane	27		ug/l	2.0	--	2
Chloroform	ND		ug/l	2.0	--	2
Carbon tetrachloride	ND		ug/l	2.0	--	2
1,2-Dichloropropane	ND		ug/l	2.0	--	2
Dibromochloromethane	ND		ug/l	2.0	--	2
1,1,2-Trichloroethane	ND		ug/l	2.0	--	2
Tetrachloroethene	300		ug/l	2.0	--	2
Chlorobenzene	ND		ug/l	2.0	--	2
Trichlorofluoromethane	ND		ug/l	4.0	--	2
1,2-Dichloroethane	ND		ug/l	2.0	--	2
1,1,1-Trichloroethane	4.1		ug/l	2.0	--	2
Bromodichloromethane	ND		ug/l	2.0	--	2
trans-1,3-Dichloropropene	ND		ug/l	0.80	--	2
cis-1,3-Dichloropropene	ND		ug/l	0.80	--	2
1,3-Dichloropropene, Total	ND		ug/l	0.80	--	2
1,1-Dichloropropene	ND		ug/l	4.0	--	2
Bromoform	ND		ug/l	4.0	--	2
1,1,2,2-Tetrachloroethane	ND		ug/l	2.0	--	2
Benzene	ND		ug/l	1.0	--	2
Toluene	ND		ug/l	2.0	--	2
Ethylbenzene	ND		ug/l	2.0	--	2
Chloromethane	ND		ug/l	4.0	--	2
Bromomethane	ND		ug/l	4.0	--	2
Vinyl chloride	ND		ug/l	2.0	--	2
Chloroethane	ND		ug/l	4.0	--	2
1,1-Dichloroethene	50		ug/l	2.0	--	2
trans-1,2-Dichloroethene	ND		ug/l	2.0	--	2

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01 D
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	170		ug/l	2.0	--	2
1,2-Dichlorobenzene	ND		ug/l	2.0	--	2
1,3-Dichlorobenzene	ND		ug/l	2.0	--	2
1,4-Dichlorobenzene	ND		ug/l	2.0	--	2
Methyl tert butyl ether	10		ug/l	4.0	--	2
p/m-Xylene	ND		ug/l	4.0	--	2
o-Xylene	ND		ug/l	2.0	--	2
Xylenes, Total	ND		ug/l	2.0	--	2
cis-1,2-Dichloroethene	100		ug/l	2.0	--	2
1,2-Dichloroethene, Total	100		ug/l	2.0	--	2
Dibromomethane	ND		ug/l	4.0	--	2
1,2,3-Trichloropropane	ND		ug/l	4.0	--	2
Styrene	ND		ug/l	2.0	--	2
Dichlorodifluoromethane	ND		ug/l	4.0	--	2
Acetone	ND		ug/l	10	--	2
Carbon disulfide	ND		ug/l	4.0	--	2
Methyl ethyl ketone	ND		ug/l	10	--	2
Methyl isobutyl ketone	ND		ug/l	10	--	2
2-Hexanone	ND		ug/l	10	--	2
Bromochloromethane	ND		ug/l	4.0	--	2
Tetrahydrofuran	ND		ug/l	4.0	--	2
2,2-Dichloropropane	ND		ug/l	4.0	--	2
1,2-Dibromoethane	ND		ug/l	4.0	--	2
1,3-Dichloropropane	ND		ug/l	4.0	--	2
1,1,1,2-Tetrachloroethane	ND		ug/l	2.0	--	2
Bromobenzene	ND		ug/l	4.0	--	2
n-Butylbenzene	ND		ug/l	4.0	--	2
sec-Butylbenzene	ND		ug/l	4.0	--	2
tert-Butylbenzene	ND		ug/l	4.0	--	2
o-Chlorotoluene	ND		ug/l	4.0	--	2
p-Chlorotoluene	ND		ug/l	4.0	--	2
1,2-Dibromo-3-chloropropane	ND		ug/l	4.0	--	2
Hexachlorobutadiene	ND		ug/l	1.2	--	2
Isopropylbenzene	ND		ug/l	4.0	--	2
p-Isopropyltoluene	ND		ug/l	4.0	--	2
Naphthalene	ND		ug/l	4.0	--	2
n-Propylbenzene	ND		ug/l	4.0	--	2

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01 D
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	4.0	--	2
1,2,4-Trichlorobenzene	ND		ug/l	4.0	--	2
1,3,5-Trimethylbenzene	ND		ug/l	4.0	--	2
1,2,4-Trimethylbenzene	ND		ug/l	4.0	--	2
Diethyl ether	ND		ug/l	4.0	--	2
Diisopropyl Ether	ND		ug/l	4.0	--	2
Ethyl-Tert-Butyl-Ether	ND		ug/l	4.0	--	2
Tertiary-Amyl Methyl Ether	ND		ug/l	4.0	--	2
1,4-Dioxane	ND		ug/l	500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	120		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/15/23 09:03
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1779305-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/15/23 09:03
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1779305-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/15/23 09:03
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1779305-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	120		70-130

Project Name: TUFTS ST. **Lab Number:** L2326258

Project Number: 045163 **Report Date:** 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 05/19/23 06:42
Analyst: SRO

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 01 Batch: WG1781091-3						
Methane	ND		ug/l	2.00	--	A
Ethene	ND		ug/l	0.500	--	A
Ethane	ND		ug/l	0.500	--	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326258

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1779305-3 WG1779305-4								
Methylene chloride	100		110		70-130	10		20
1,1-Dichloroethane	100		120		70-130	18		20
Chloroform	100		120		70-130	18		20
Carbon tetrachloride	110		120		70-130	9		20
1,2-Dichloropropane	98		110		70-130	12		20
Dibromochloromethane	92		110		70-130	18		20
1,1,2-Trichloroethane	91		100		70-130	9		20
Tetrachloroethene	93		110		70-130	17		20
Chlorobenzene	89		100		70-130	12		20
Trichlorofluoromethane	95		110		70-130	15		20
1,2-Dichloroethane	110		120		70-130	9		20
1,1,1-Trichloroethane	100		120		70-130	18		20
Bromodichloromethane	110		120		70-130	9		20
trans-1,3-Dichloropropene	95		110		70-130	15		20
cis-1,3-Dichloropropene	98		110		70-130	12		20
1,1-Dichloropropene	97		110		70-130	13		20
Bromoform	88		100		70-130	13		20
1,1,2,2-Tetrachloroethane	90		100		70-130	11		20
Benzene	100		110		70-130	10		20
Toluene	89		100		70-130	12		20
Ethylbenzene	88		100		70-130	13		20
Chloromethane	78		88		70-130	12		20
Bromomethane	**57**	Q	**59**	Q	70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1779305-3 WG1779305-4								
Vinyl chloride	81		93		70-130	14		20
Chloroethane	93		100		70-130	7		20
1,1-Dichloroethene	88		100		70-130	13		20
trans-1,2-Dichloroethene	95		110		70-130	15		20
Trichloroethene	100		110		70-130	10		20
1,2-Dichlorobenzene	86		98		70-130	13		20
1,3-Dichlorobenzene	89		100		70-130	12		20
1,4-Dichlorobenzene	88		100		70-130	13		20
Methyl tert butyl ether	93		110		70-130	17		20
p/m-Xylene	90		110		70-130	20		20
o-Xylene	90		105		70-130	15		20
cis-1,2-Dichloroethene	100		110		70-130	10		20
Dibromomethane	100		120		70-130	18		20
1,2,3-Trichloropropane	88		100		70-130	13		20
Styrene	95		110		70-130	15		20
Dichlorodifluoromethane	72		82		70-130	13		20
Acetone	99		100		70-130	1		20
Carbon disulfide	98		100		70-130	2		20
Methyl ethyl ketone	110		120		70-130	9		20
Methyl isobutyl ketone	80		93		70-130	15		20
2-Hexanone	75		94		70-130	**22**	Q	20
Bromochloromethane	120		120		70-130	0		20
Tetrahydrofuran	100		93		70-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1779305-3 WG1779305-4								
2,2-Dichloropropane	110		130		70-130	17		20
1,2-Dibromoethane	89		100		70-130	12		20
1,3-Dichloropropane	88		100		70-130	13		20
1,1,1,2-Tetrachloroethane	93		100		70-130	7		20
Bromobenzene	88		97		70-130	10		20
n-Butylbenzene	72		86		70-130	18		20
sec-Butylbenzene	85		100		70-130	16		20
tert-Butylbenzene	76		92		70-130	19		20
o-Chlorotoluene	89		100		70-130	12		20
p-Chlorotoluene	86		100		70-130	15		20
1,2-Dibromo-3-chloropropane	80		91		70-130	13		20
Hexachlorobutadiene	82		100		70-130	20		20
Isopropylbenzene	78		94		70-130	19		20
p-Isopropyltoluene	72		87		70-130	19		20
Naphthalene	72		83		70-130	14		20
n-Propylbenzene	87		99		70-130	13		20
1,2,3-Trichlorobenzene	76		92		70-130	19		20
1,2,4-Trichlorobenzene	73		86		70-130	16		20
1,3,5-Trimethylbenzene	82		95		70-130	15		20
1,2,4-Trimethylbenzene	79		94		70-130	17		20
Diethyl ether	86		100		70-130	15		20
Diisopropyl Ether	96		110		70-130	14		20
Ethyl-Tert-Butyl-Ether	96		110		70-130	14		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326258

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1779305-3 WG1779305-4								
Tertiary-Amyl Methyl Ether	92		110		70-130	18		20
1,4-Dioxane	116		**152**	Q	70-130	**27**	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	112		110		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	103		95		70-130
Dibromofluoromethane	112		111		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326258

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01 Batch: WG1781091-2									
Methane	102		-		80-120	-		25	A
Ethene	95		-		80-120	-		25	A
Ethane	95		-		80-120	-		25	A

METALS

Project Name: TUFTS ST.
Lab Number: L2326258
Project Number: 045163
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA
Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Manganese, Total	11.2		mg/l	0.0100	--	1	05/24/23 10:15	05/25/23 07:46	EPA 3005A	97,6010D	JMF

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1782373-1										
Manganese, Total	ND		mg/l	0.0100	--	1	05/24/23 10:15	05/25/23 07:33	97,6010D	JMF

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326258

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1782373-2 WG1782373-3								
Manganese, Total	94		91		80-120	3		20

INORGANICS
&
MISCELLANEOUS

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326258-01
Client ID: 045163-MW112A
Sample Location: SOMERVILLE, MA

Date Collected: 05/11/23 13:10
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	249.		mg CaCO3/L	2.00	NA	1	-	05/23/23 14:09	121,2320B	MKT
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/12/23 10:30	121,4500CL-D	KAF
Chloride	560		mg/l	10	--	10	-	05/23/23 22:17	1,9251	TLH
Nitrogen, Nitrate	ND		mg/l	0.100	--	1	-	05/12/23 04:54	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	05/12/23 04:54	121,4500NO3-F	KAF
Total Nitrogen	0.42		mg/l	0.30	--	1	-	05/25/23 11:05	107,-	MRM
Nitrogen, Total Kjeldahl	0.423		mg/l	0.300	--	1	05/20/23 08:15	05/24/23 13:10	121,4500NH3-H	KEP
Sulfate	44.		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD
Total Organic Carbon	2.6		mg/l	0.50	--	1	-	05/18/23 11:19	1,9060A	DEW
Surfactants, MBAS	0.070		mg/l	0.050	--	1	05/12/23 03:45	05/12/23 08:34	121,5540C	KAF
Iron, Ferrous	ND		mg/l	0.50	--	1	-	05/12/23 12:08	121,3500FE-B	OCF

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1777991-1										
Nitrogen, Nitrate	ND		mg/l	0.100	--	1	-	05/12/23 03:17	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1777992-1										
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	05/12/23 03:08	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1777993-1										
Surfactants, MBAS	ND		mg/l	0.050	--	1	05/12/23 03:45	05/12/23 08:31	121,5540C	KAF
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1778222-5										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/12/23 10:30	121,4500CL-D	KAF
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1778266-1										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	05/12/23 12:05	121,3500FE-B	OCF
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1780285-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	05/18/23 04:16	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1781301-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	--	1	05/20/23 08:15	05/24/23 12:45	121,4500NH3-H	KEP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1782252-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	05/23/23 12:39	121,2320B	MKT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1782458-1										
Chloride	ND		mg/l	1.0	--	1	-	05/23/23 20:54	1,9251	TLH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1782690-1										
Sulfate	ND		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1777991-2								
Nitrogen, Nitrate	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1777992-2								
Nitrogen, Nitrate/Nitrite	96		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1777993-2								
Surfactants, MBAS	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1778222-6								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1778266-2								
Iron, Ferrous	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1780285-2								
Total Organic Carbon	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1781301-2								
Nitrogen, Total Kjeldahl	97		-		78-122	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326258

Report Date: 05/25/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1782252-2					
Alkalinity, Total	110	-	90-110	-	10
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1782458-2					
Chloride	97	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1782690-2					
Sulfate	90	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1778222-8 QC Sample: L2326258-01 Client ID: 045163-MW112A												
Chlorine, Total Residual	ND	0.25	0.18	**72**	Q	-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326258

Report Date: 05/25/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1778222-7 QC Sample: L2326258-01 Client ID: 045163-MW112A						
Chlorine, Total Residual	ND	ND	mg/l	NC		20

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326258
Report Date: 05/25/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326258-01A	Vial HCl preserved	A	NA		3.2	Y	Absent		MCP-8260-21(14)
L2326258-01B	Vial HCl preserved	A	NA		3.2	Y	Absent		MCP-8260-21(14)
L2326258-01C	Vial HCl preserved	A	NA		3.2	Y	Absent		MCP-8260-21(14)
L2326258-01D	Vial H2SO4 preserved	A	NA		3.2	Y	Absent		TOC-9060(28)
L2326258-01E	Vial H2SO4 preserved	A	NA		3.2	Y	Absent		TOC-9060(28)
L2326258-01F	20ml Vial HCl preserved	A	NA		3.2	Y	Absent		DISSGAS(14)
L2326258-01G	20ml Vial HCl preserved	A	NA		3.2	Y	Absent		DISSGAS(14)
L2326258-01H	Plastic 250ml unpreserved/No Headspace	A	NA		3.2	Y	Absent		ALK-T-2320(14)
L2326258-01I	Plastic 250ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		MCP-MN-6010T-10(180)
L2326258-01J	Plastic 250ml H2SO4 preserved	A	<2	<2	3.2	Y	Absent		TKN-4500(28),NO3/NO2-4500(28),TNITROGEN(28)
L2326258-01K	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	3.2	Y	Absent		SUB-SULFIDE()
L2326258-01L	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	3.2	Y	Absent		SUB-SULFIDE()
L2326258-01M	Plastic 950ml unpreserved	A	7	7	3.2	Y	Absent		CL-9251(28),SO4-9038(28),NO3-4500(2),MBAS-5540(2),FERROUS(1)
L2326258-01N	Plastic 950ml unpreserved	A	7	7	3.2	Y	Absent		TRC-4500(1)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2326258
Project Number:	045163	**Report Date:**	05/25/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2326258
Project Number:	045163	**Report Date:**	05/25/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2326258
Project Number:	045163	**Report Date:**	05/25/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326258
Report Date: 05/25/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

107 Alpha Analytical - In-house calculation method.

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain-of-Custody Record

Laboratory: ALPha

Laboratory Job # (Lab use only) L2376258

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: 50 Tufts St
Project Location: Somerville, MA
Project Number: 045163
Project Manager: Chris Coner
Send Report to: Chris Coner, Molly Forrest
labdata@geiconsultants.com

Page 1 of 1

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Sample Handling: Samples Field Filtered YES NO (NA)

Sampled Shipped With Ice (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative: HCl	HCl	none	NaOH + Zn Acetate	H2SO4	H2SO4	DSM	Preservative: VOCs 8260	Methane/ethane/ethene	Alkalinity/Cl-/TKN/Fe II/N/NO3/SO4/Hardness	Sulfide	TOC	manganese	NO2/NO3 nitrogen	Sample Specific Remarks
26258-01	045163-MW12A	5/11/23	13:10	GW	14	DSM															

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
Dave Mill	5/11/23	14:48	1. AKL
2. NDL	5/11	18:21	2.
3.			3.
4.			4.
5.			5.

Turnaround Time (Business days):

Normal X 4-Day ____ 3-Day ____
2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

Method Blank Summary
Form 4
Volatiles

Client	: **GEI Consultants**	**Lab Number**	: **L2326258**
Project Name	: **TUFTS ST.**	**Project Number**	: **045163**
Lab Sample ID	: **WG1779305-5**	**Lab File ID**	: **V16230515A05**
Instrument ID	: **VOA116**		
Matrix	: **WATER**	**Analysis Date**	: **05/15/23 09:03**

Client Sample No.	Lab Sample ID	Analysis Date
WG1779305-3LCS	WG1779305-3	05/15/23 07:25
WG1779305-4LCSD	WG1779305-4	05/15/23 08:14
045163-MW112A	L2326258-01D	05/15/23 15:22

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2326258
Project Name	: TUFTS ST.	**Project Number**	: 045163
Instrument ID	: VOA116	**Calibration Date**	: 05/15/23 07:25
Lab File ID	: V16230515A01	**Init. Calib. Date(s)**	: 04/25/23 04/25/23
Sample No	: WG1779305-2	**Init. Calib. Times**	: 19:13 22:53
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	64	0
Dichlorodifluoromethane	0.25	0.181	-	27.6*	20	45	0
Chloromethane	0.423	0.331	-	21.7*	20	51	0
Vinyl chloride	0.31	0.252	-	18.7	20	52	0
Bromomethane	0.179	0.101	-	43.6*	20	39	0
Chloroethane	0.193	0.18	-	6.7	20	60	0
Trichlorofluoromethane	0.403	0.385	-	4.5	20	60	0
Ethyl ether	0.118	0.102	-	13.6	20	57	0
1,1-Dichloroethene	0.246	0.217	-	11.8	20	57	0
Carbon disulfide	0.816	0.803	-	1.6	20	64	0
Methylene chloride	0.296	0.295	-	0.3	20	65	0
Acetone	0.082	0.082	-	0	20	64	0
trans-1,2-Dichloroethene	0.276	0.263	-	4.7	20	62	0
Methyl tert-butyl ether	0.587	0.547	-	6.8	20	63	0
Diisopropyl ether	1.205	1.155	-	4.1	20	63	0
1,1-Dichloroethane	0.62	0.629	-	-1.5	20	64	0
Ethyl tert-butyl ether	0.951	0.913	-	4	20	63	0
cis-1,2-Dichloroethene	0.302	0.301	-	0.3	20	64	0
2,2-Dichloropropane	0.404	0.464	-	-14.9	20	80	0
Bromochloromethane	0.123	0.146	-	-18.7	20	70	0
Chloroform	0.567	0.59	-	-4.1	20	66	0
Carbon tetrachloride	0.423	0.458	-	-8.3	20	68	0
Tetrahydrofuran	0.093	0.097	-	-4.3	20	68	0
Dibromofluoromethane	0.291	0.325	-	-11.7	20	75	0
1,1,1-Trichloroethane	0.452	0.469	-	-3.8	20	67	0
2-Butanone	0.116	0.124	-	-6.9	20	67	0
1,1-Dichloropropene	0.39	0.379	-	2.8	20	63	0
Benzene	1.139	1.151	-	-1.1	20	63	0
tert-Amyl methyl ether	0.665	0.613	-	7.8	20	61	0
1,2-Dichloroethane-d4	0.359	0.404	-	-12.5	20	75	0
1,2-Dichloroethane	0.437	0.465	-	-6.4	20	69	0
Trichloroethene	0.311	0.318	-	-2.3	20	60	0
Dibromomethane	0.162	0.172	-	-6.2	20	66	0
1,2-Dichloropropane	0.349	0.341	-	2.3	20	63	0
Bromodichloromethane	0.453	0.491	-	-8.4	20	69	0
1,4-Dioxane	0.00133	0.00156*	-	-17.3	20	81	0
cis-1,3-Dichloropropene	0.462	0.455	-	1.5	20	60	0
Chlorobenzene-d5	1	1	-	0	20	77	0
Toluene-d8	1.29	1.253	-	2.9	20	74	0
Toluene	0.936	0.837	-	10.6	20	66	0
4-Methyl-2-pentanone	0.114	0.091	-	20.2*	20	65	0
Tetrachloroethene	0.402	0.373	-	7.2	20	67	0
trans-1,3-Dichloropropene	0.511	0.488	-	4.5	20	69	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2326258	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 05/15/23 07:25	
Lab File ID	: V16230515A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1779305-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.263	0.24	-	8.7	20	65	0
Chlorodibromomethane	0.378	0.347	-	8.2	20	70	0
1,3-Dichloropropane	0.545	0.48	-	11.9	20	64	0
1,2-Dibromoethane	0.294	0.262	-	10.9	20	65	0
2-Hexanone	0.21	0.158	-	24.8*	20	63	0
Chlorobenzene	1.024	0.912	-	10.9	20	66	0
Ethylbenzene	1.728	1.513	-	12.4	20	64	0
1,1,1,2-Tetrachloroethane	0.381	0.356	-	6.6	20	69	0
p/m Xylene	0.649	0.596	-	8.2	20	65	0
o Xylene	0.616	0.56	-	9.1	20	65	0
Styrene	1.027	0.986	-	4	20	66	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	81	0
Bromoform	0.407	0.361	-	11.3	20	71	0
Isopropylbenzene	3.111	2.418	-	22.3*	20	64	0
4-Bromofluorobenzene	0.86	0.886	-	-3	20	85	0
Bromobenzene	0.755	0.661	-	12.5	20	71	0
n-Propylbenzene	3.738	3.251	-	13	20	67	0
1,1,2,2-Tetrachloroethane	0.676	0.607	-	10.2	20	76	0
2-Chlorotoluene	2.609	2.334	-	10.5	20	68	0
1,3,5-Trimethylbenzene	2.655	2.167	-	18.4	20	67	0
1,2,3-Trichloropropane	0.55	0.485	-	11.8	20	68	0
4-Chlorotoluene	2.311	1.992	-	13.8	20	67	0
tert-Butylbenzene	2.245	1.719	-	23.4*	20	64	0
1,2,4-Trimethylbenzene	2.529	2.004	-	20.8*	20	65	0
sec-Butylbenzene	3.486	2.952	-	15.3	20	64	0
p-Isopropyltoluene	10	7.241	-	27.6*	20	63	0
1,3-Dichlorobenzene	1.477	1.313	-	11.1	20	69	0
1,4-Dichlorobenzene	1.485	1.3	-	12.5	20	70	0
n-Butylbenzene	10	7.194	-	28.1*	20	63	0
1,2-Dichlorobenzene	1.364	1.179	-	13.6	20	68	0
1,2-Dibromo-3-chloropropan	0.096	0.077	-	19.8	20	65	0
Hexachlorobutadiene	0.314	0.259	-	17.5	20	68	0
1,2,4-Trichlorobenzene	0.733	0.535	-	27*	20	70	0
Naphthalene	10	7.174	-	28.3*	20	70	0
1,2,3-Trichlorobenzene	0.638	0.485	-	24*	20	70	0

*** Value outside of QC limits.**

PHOENIX
Environmental Laboratories, Inc.

Thursday, May 18, 2023

Attn: Jennifer Byrnes
Alpha Analytical Lab
8 Walkup Drive
Westborough, MA 01581

Project ID: L2326258
SDG ID: GCO04446
Sample ID#s: CO04446

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 18, 2023

SDG I.D.: GCO04446

Project ID: L2326258

Client Id	Lab Id	Matrix
D45163-MW112A	CO04446	WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2023

FOR: Attn: Jennifer Byrnes
Alpha Analytical Lab
8 Walkup Drive
Westborough, MA 01581

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		05/11/23	13:10
Location Code:	ALPHA	Received by:	SR1	05/12/23	11:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCO04446
Phoenix ID: CO04446

Project ID: L2326258
Client ID: D45163-MW112A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Sulfide	< 0.05	0.05	mg/L	1	05/17/23	GD	SM4500S-D-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 18, 2023
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

May 18, 2023

QA/QC Data

SDG I.D.: GCO04446

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 678165 (mg/L), QC Sample No: CO07174 (CO04446)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	102			97.8			90 - 110	20

Comment:

Additional: LCS acceptance range is 90-110% MS acceptance range 75-125%.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 18, 2023

Thursday, May 18, 2023

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCO04446 - ALPHA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 18, 2023 SDG I.D.: GCO04446

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

1.0 AR 15

Subcontract Chain of Custody

Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040

Alpha Job Number
L2326258

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 716.427.5228 Email: jbyrnes@alphalab.com	Project Location: MA Project Manager: Jennifer Byrnes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2326258

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
04446	045163-MW112A	05-11-23 13:10	WATER	Sulfide * 2-250ml NAOH	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		5/12/23		5/12/23 905
		5/12/23 1028		5/12/23 11:00

Form No: AL_subcoc

Serial_No:05252316:08

ANALYTICAL REPORT

Lab Number:	L2326192
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	05/25/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (99110) , NJ (MA015), NY (11627), NC (685), OH (CL106), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2326192
Report Date: 05/25/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326192-01	045163-105WASH-F1	AIR	SOMERVILLE, MA	05/10/23 10:47	05/11/23
L2326192-02	045163-105WASH-B1	AIR	SOMERVILLE, MA	05/10/23 09:02	05/11/23
L2326192-03	045163-105WASH-B2	AIR	SOMERVILLE, MA	05/10/23 12:30	05/11/23
L2326192-04	045163-105WASH-SV2	SOIL_VAPOR	SOMERVILLE, MA	05/10/23 14:57	05/11/23
L2326192-05	UNUSED #929	AIR	SOMERVILLE, MA		05/11/23

Project Name: TUFTS STREET **Lab Number:** L2326192

Project Number: 045163 **Report Date:** 05/25/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2326192
Project Number:	045163	**Report Date:**	05/25/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on May 5, 2023. The canister certification data is provided as an addendum.

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

Sample Receipt

L2326192-02: The sample had an RPD for the pre- and post-flow controller calibration check (36% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was 1.0 inches of mercury. No further action was required.

L2326192-03: The sample had an RPD for the pre- and post-flow controller calibration check (22% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was -9.0 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 05/25/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2326192
Report Date: 05/25/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326192-01
Client ID: 045163-105WASH-F1
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 10:47
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/24/23 23:43
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	0.030	0.020	--	0.121	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.055	0.020	--	0.373	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	88		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326192-02
Client ID: 045163-105WASH-B1
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 09:02
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/25/23 00:21
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	0.043	0.020	--	0.174	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	0.024	0.020	--	0.129	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.124	0.020	--	0.841	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	97		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326192-03
Client ID: 045163-105WASH-B2
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 12:30
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/25/23 01:00
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	0.025	0.020	--	0.101	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.079	0.020	--	0.536	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326192-04
Client ID: 045163-105WASH-SV2
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 14:57
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/25/23 03:36
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	0.040	0.020	--	0.215	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.274	0.020	--	1.86	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	92		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 05/24/23 18:31

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1782959-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2326192

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1782959-3								
Vinyl chloride	91		-		70-130	-		
1,1-Dichloroethene	90		-		70-130	-		
trans-1,2-Dichloroethene	85		-		70-130	-		
1,1-Dichloroethane	88		-		70-130	-		
cis-1,2-Dichloroethene	89		-		70-130	-		
1,1,1-Trichloroethane	93		-		70-130	-		
Trichloroethene	88		-		70-130	-		
1,1,2-Trichloroethane	93		-		70-130	-		
Tetrachloroethene	86		-		70-130	-		
1,1,2,2-Tetrachloroethane	93		-		70-130	-		

Project Name: TUFTS STREET

Lab Number: L2326192

Project Number: 045163

Report Date: 05/25/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2326192-01	045163-105WASH-F1	02234	Flow 5	05/05/23	422690		-	-	-	Pass	3.0	2.5	18
L2326192-01	045163-105WASH-F1	2712	6.0L Can	05/05/23	422690	L2322388-05	Pass	-29.5	-8.9	-	-	-	-
L2326192-02	045163-105WASH-B1	02155	Flow 5	05/05/23	422690		-	-	-	Pass	3.0	4.3	36
L2326192-02	045163-105WASH-B1	1693	6.0L Can	05/05/23	422690	L2322388-05	Pass	-29.8	1.0	-	-	-	-
L2326192-03	045163-105WASH-B2	01474	Flow 5	05/05/23	422690		-	-	-	Pass	3.0	2.4	22
L2326192-03	045163-105WASH-B2	972	6.0L Can	05/05/23	422690	L2322388-05	Pass	-29.7	-9.0	-	-	-	-
L2326192-04	045163-105WASH-SV2	01717	Flow 2	05/05/23	422690		-	-	-	Pass	36.0	33.4	7
L2326192-04	045163-105WASH-SV2	2763	2.7L Can	05/05/23	422690	L2323075-01	Pass	-29.0	-5.6	-	-	-	-
L2326192-05	UNUSED #929	0096	Flow 5	05/05/23	422690		-	-	-	Pass	3.0	2.6	14
L2326192-05	UNUSED #929	929	6.0L Can	05/05/23	422690	L2321139-06	Pass	-29.7	-7.8	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2321139

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/23/23 20:13
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2321139
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2321139

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2321139

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2321139
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2321139

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/23/23 20:13
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2321139
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2321139

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2321139-06
Client ID: CAN 3123 SHELF 30
Sample Location:

Date Collected: 04/20/23 11:00
Date Received: 04/20/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	93		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/26/23 20:54
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2322388

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	101		60-140
chlorobenzene-d5	98		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/26/23 20:54
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/26/23 23:57
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/01/23 17:46
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/01/23 17:46
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323075
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323075-01
Client ID: CAN 175 SHELF 2
Sample Location:

Date Collected: 04/27/23 18:00
Date Received: 04/28/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2326192
Report Date: 05/25/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326192-01A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2326192-02A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2326192-03A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2326192-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2326192-05A	Canister - 6 Liter	NA	NA			Y	Absent		CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L2326192
Project Number:	045163	**Report Date:**	05/25/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2326192
Project Number:	045163	**Report Date:**	05/25/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2326192
Project Number:	045163	**Report Date:**	05/25/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326192
Report Date: 05/25/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/11/23

ALPHA Job #: L2326192

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr.
Woburn, MA 01821
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Chris Coner
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subset non-chlorinated HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
26192-01	045163-105Wash-F1	5/10/23	09:38	10:47	-29.96	-9.89	IA	DJM	6L	2712	02234	X						see attached list of analytes
-02	045163-105Wash-B1	5/10/23	09:42	09:02	-30.10	-0.13	IA	DJM	6L	1693	02155	X						
-03	045163-105Wash-B2	5/10/23	09:46	12:30	-29.83	-9.86	IA	DJM	6L	972	01474	X						
-04	045163-105Wash-SV2	5/10/23	13:57	14:57	-29.41	-7.24	SV	DJM	2.7L	2763	01717	X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Davis Mill	5/10/23 16:30	GEI Field Team	5/10/23 16:30
Field Team	5/11/23 1335	Gad F.	5/11/23 13:35
Gad F.	5/11/23 1333	[illegible]	5/11 13:35
[illegible]	5/11 18:13	[illegible]	5/11/23 1813

5/11/23

Form No: 101-02 Rev 6 (25-Sep-15)

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:05252316:03

ANALYTICAL REPORT

Lab Number:	L2326186
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	05/25/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (99110) , NJ (MA015), NY (11627), NC (685), OH (CL106), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2326186
Report Date: 05/25/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326186-01	045163-103WASH-F1	AIR	SOMERVILLE, MA	05/10/23 10:04	05/11/23
L2326186-02	045163-103WASH-SV1	SOIL_VAPOR	SOMERVILLE, MA	05/10/23 14:47	05/11/23
L2326186-03	045163-103WASH-SV2	SOIL_VAPOR	SOMERVILLE, MA	05/10/23 14:48	05/11/23

Project Name: TUFTS STREET **Lab Number:** L2326186

Project Number: 045163 **Report Date:** 05/25/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2326186
Project Number:	045163	**Report Date:**	05/25/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326186
Report Date: 05/25/23

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on May 5, 2023. The canister certification data is provided as an addendum.

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

Sample Receipt

L2326186-01: The sample had an RPD for the pre- and post-flow controller calibration check (50% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was -6.7 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 05/25/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2326186
Report Date: 05/25/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326186
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326186-01
Client ID: 045163-103WASH-F1
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 10:04
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/24/23 21:06
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	0.049	0.020	--	0.194	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.041	0.020	--	0.278	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326186
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326186-02
Client ID: 045163-103WASH-SV1
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 14:47
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/25/23 01:39
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	0.295	0.020	--	1.17	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	0.493	0.020	--	1.95	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	1.76	0.020	--	9.46	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	4.21	0.020	--	28.5	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326186
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326186-03
Client ID: 045163-103WASH-SV2
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 14:48
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 05/25/23 02:18
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	1.68	0.020	--	6.66	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	2.39	0.020	--	9.48	0.079	--		1
1,1,1-Trichloroethane	0.032	0.020	--	0.175	0.109	--		1
Trichloroethene	18.3	0.020	--	98.3	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	27.9	0.020	--	189	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326186
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 05/24/23 18:31

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1782959-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2326186

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1782959-3								
Vinyl chloride	91		-		70-130	-		
1,1-Dichloroethene	90		-		70-130	-		
trans-1,2-Dichloroethene	85		-		70-130	-		
1,1-Dichloroethane	88		-		70-130	-		
cis-1,2-Dichloroethene	89		-		70-130	-		
1,1,1-Trichloroethane	93		-		70-130	-		
Trichloroethene	88		-		70-130	-		
1,1,2-Trichloroethane	93		-		70-130	-		
Tetrachloroethene	86		-		70-130	-		
1,1,2,2-Tetrachloroethane	93		-		70-130	-		

Project Name: TUFTS STREET

Lab Number: L2326186

Project Number: 045163

Report Date: 05/25/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2326186-01	045163-103WASH-F1	0023	Flow 5	05/05/23	422690		-	-	-	Pass	3.0	1.8	50
L2326186-01	045163-103WASH-F1	3343	6.0L Can	05/05/23	422690	L2322388-05	Pass	-29.3	-6.7	-	-	-	-
L2326186-02	045163-103WASH-SV1	01715	Flow 2	05/05/23	422690		-	-	-	Pass	36.0	33.0	9
L2326186-02	045163-103WASH-SV1	2013	2.7L Can	05/05/23	422690	L2323654-01	Pass	-29.6	-5.3	-	-	-	-
L2326186-03	045163-103WASH-SV2	01527	Flow 2	05/05/23	422690		-	-	-	Pass	36.0	33.2	8
L2326186-03	045163-103WASH-SV2	1805	2.7L Can	05/05/23	422690	L2323654-01	Pass	-29.6	-5.2	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/26/23 20:54
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2322388

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	101		60-140
chlorobenzene-d5	98		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/26/23 20:54
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2322388
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2322388

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2322388-05
Client ID: CAN 3918 SHELF 56
Sample Location:

Date Collected: 04/26/23 10:00
Date Received: 04/26/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/26/23 23:57
Analyst: JMB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323654
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/02/23 21:12
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2323654

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323654
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323654
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323654
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2323654
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/02/23 21:12
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2323654
Report Date: 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2323654

Project Number: CANISTER QC BAT **Report Date:** 05/25/23

Air Canister Certification Results

Lab ID: L2323654-01
Client ID: CAN 3935 SHELF 8
Sample Location:

Date Collected: 05/01/23 18:00
Date Received: 05/02/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	99		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2326186
Report Date: 05/25/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326186-01A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2326186-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2326186-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L2326186
Project Number:	045163	**Report Date:**	05/25/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2326186
Project Number:	045163	**Report Date:**	05/25/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2326186
Project Number:	045163	**Report Date:**	05/25/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2326186
Report Date: 05/25/23

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/11/23

ALPHA Job #: L2326186

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr.
Woburn MA 01801
Phone: 781-721-4026
Fax:
Email: labdata@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Chris Coner
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subject Non-petroleum HAPs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
26186-01	045163-103Wash-F1	5/10/23	10:01	10:04	-30.07	-8.28	IA	DJM	6L	3343	0023	X					see attached list of analytes
-02	045163-103Wash-SV1	5/10/23	13:47	14:47	-30.04	-6.88	SV	DJM	2.7L	203	01745	X					
-03	045163-103Wash-SV2	5/10/23	13:48	14:48	-29.98	-6.88	SV	DJM	2.7L	1805	01527	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Dawn Mdl	5/11/23 16:30	GEI Field Room	5/11/23 16:30
Field Room	5/11/23 1335	Client	5/11/23 1335
Client	5/11/23 1335		5/11 13:35

5/11/23 20:30

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

Serial_No:05252316:03

ANALYTICAL REPORT

Lab Number:	L2326188
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	05/25/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326188
Report Date: 05/25/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326188-01	045163-103WASH-SUMP	WATER	SOMERVILLE, MA	05/10/23 15:00	05/11/23

Project Name: TUFTS ST. **Lab Number:** L2326188

Project Number: 045163 **Report Date:** 05/25/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L2326188
Project Number:	045163	**Report Date:**	05/25/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS ST. **Lab Number:** L2326188
Project Number: 045163 **Report Date:** 05/25/23

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

L2326188-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0012)

Average Response Factor: 1,4-dioxane

L2326188-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative Date: 05/25/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326188
Report Date: 05/25/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1782114-3	Bromomethane	LCS	53	70-130	01	potential low bias
8260D	Batch QC	WG1782114-3	Dichlorodifluoromethane	LCS	140	70-130	01	potential high bias
8260D	Batch QC	WG1782114-4	Bromomethane	LCSD	59	70-130	01	potential low bias
8260D	Batch QC	WG1782114-4	Dichlorodifluoromethane	LCSD	140	70-130	01	potential high bias
8260D	Laboratory Method Bl	WG1782114-5	1,2-Dichloroethane-d4	Surrogate	132	70-130	-	potential high bias

ORGANICS

VOLATILES

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326188
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326188-01
Client ID: 045163-103WASH-SUMP
Sample Location: SOMERVILLE, MA

Date Collected: 05/10/23 15:00
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 05/22/23 18:37
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2326188

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326188-01 Date Collected: 05/10/23 15:00

Client ID: 045163-103WASH-SUMP Date Received: 05/11/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	1.5		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	1.4		ug/l	1.0	--	1
1,2-Dichloroethene, Total	1.4		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS ST. **Lab Number:** L2326188

Project Number: 045163 **Report Date:** 05/25/23

SAMPLE RESULTS

Lab ID: L2326188-01 Date Collected: 05/10/23 15:00

Client ID: 045163-103WASH-SUMP Date Received: 05/11/23

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	112		70-130

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326188
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/22/23 10:33
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1782114-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326188
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/22/23 10:33
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1782114-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L2326188
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/22/23 10:33
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1782114-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**132**	Q	70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	128		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326188

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1782114-3 WG1782114-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		110		70-130	10		20
Chloroform	100		110		70-130	10		20
Carbon tetrachloride	110		120		70-130	9		20
1,2-Dichloropropane	96		100		70-130	4		20
Dibromochloromethane	95		98		70-130	3		20
1,1,2-Trichloroethane	93		96		70-130	3		20
Tetrachloroethene	99		99		70-130	0		20
Chlorobenzene	93		97		70-130	4		20
Trichlorofluoromethane	120		130		70-130	8		20
1,2-Dichloroethane	100		110		70-130	10		20
1,1,1-Trichloroethane	110		110		70-130	0		20
Bromodichloromethane	110		110		70-130	0		20
trans-1,3-Dichloropropene	96		100		70-130	4		20
cis-1,3-Dichloropropene	93		100		70-130	7		20
1,1-Dichloropropene	99		100		70-130	1		20
Bromoform	88		92		70-130	4		20
1,1,2,2-Tetrachloroethane	88		92		70-130	4		20
Benzene	100		100		70-130	0		20
Toluene	94		94		70-130	0		20
Ethylbenzene	94		97		70-130	3		20
Chloromethane	110		120		70-130	9		20
Bromomethane	**53**	Q	**59**	Q	70-130	11		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326188
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1782114-3 WG1782114-4								
Vinyl chloride	110		120		70-130	9		20
Chloroethane	110		110		70-130	0		20
1,1-Dichloroethene	100		110		70-130	10		20
trans-1,2-Dichloroethene	99		110		70-130	11		20
Trichloroethene	100		110		70-130	10		20
1,2-Dichlorobenzene	90		93		70-130	3		20
1,3-Dichlorobenzene	94		95		70-130	1		20
1,4-Dichlorobenzene	92		94		70-130	2		20
Methyl tert butyl ether	92		100		70-130	8		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		100		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	100		110		70-130	10		20
1,2,3-Trichloropropane	87		92		70-130	6		20
Styrene	100		105		70-130	5		20
Dichlorodifluoromethane	**140**	Q	**140**	Q	70-130	0		20
Acetone	85		92		70-130	8		20
Carbon disulfide	110		110		70-130	0		20
Methyl ethyl ketone	100		110		70-130	10		20
Methyl isobutyl ketone	74		83		70-130	11		20
2-Hexanone	78		84		70-130	7		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	96		110		70-130	14		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326188
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1782114-3 WG1782114-4								
2,2-Dichloropropane	120		120		70-130	0		20
1,2-Dibromoethane	91		96		70-130	5		20
1,3-Dichloropropane	90		94		70-130	4		20
1,1,1,2-Tetrachloroethane	100		100		70-130	0		20
Bromobenzene	88		91		70-130	3		20
n-Butylbenzene	83		85		70-130	2		20
sec-Butylbenzene	94		97		70-130	3		20
tert-Butylbenzene	86		88		70-130	2		20
o-Chlorotoluene	95		96		70-130	1		20
p-Chlorotoluene	92		94		70-130	2		20
1,2-Dibromo-3-chloropropane	82		87		70-130	6		20
Hexachlorobutadiene	100		100		70-130	0		20
Isopropylbenzene	84		87		70-130	4		20
p-Isopropyltoluene	83		86		70-130	4		20
Naphthalene	74		77		70-130	4		20
n-Propylbenzene	91		94		70-130	3		20
1,2,3-Trichlorobenzene	82		83		70-130	1		20
1,2,4-Trichlorobenzene	77		81		70-130	5		20
1,3,5-Trimethylbenzene	88		92		70-130	4		20
1,2,4-Trimethylbenzene	88		91		70-130	3		20
Diethyl ether	89		100		70-130	12		20
Diisopropyl Ether	97		100		70-130	3		20
Ethyl-Tert-Butyl-Ether	96		100		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST.

Project Number: 045163

Lab Number: L2326188

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1782114-3 WG1782114-4								
Tertiary-Amyl Methyl Ether	91		100		70-130	9		20
1,4-Dioxane	98		114		70-130	15		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		107		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	91		94		70-130
Dibromofluoromethane	101		105		70-130

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L2326188
Report Date: 05/25/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326188-01A	Vial HCl preserved	A	NA		3.1	Y	Absent		MCP-8260-21(14)
L2326188-01B	Vial HCl preserved	A	NA		3.1	Y	Absent		MCP-8260-21(14)
L2326188-01C	Vial HCl preserved	A	NA		3.1	Y	Absent		MCP-8260-21(14)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L2326188
Project Number:	045163	**Report Date:**	05/25/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2326188
Project Number:	045163	**Report Date:**	05/25/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2326188
Project Number:	045163	**Report Date:**	05/25/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS ST.	**Lab Number:**	L2326188
Project Number:	045163	**Report Date:**	05/25/23

REFERENCES

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain-of-Custody Record

Laboratory: Alpha

Laboratory Job # (Lab use only) L2326198

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project Number: 045163
Project Manager: Chris Coner
Send Report to: labdata@geiconsultants.com
Chris Coner
Molly Forrest

Page 1 of 1

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative: HCl	VOCs	Sample Specific Remarks
26189701	045163-103Switch-sump	5/10/23	15:00	GW	3	DJM		X	

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1. Davis Mill	5/10/23	16:30	1. GEI Fridge
2. Fridge	5/11/23	1:35P	2. Chad F.
3. Chad F.	5/11/23	1:35P	3. Admin NL
4. Admin NL	5/11	15:19	4.
5.			5.

Turnaround Time (Business days):

Normal X 4-Day ____ 3-Day ____ 2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you must notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

Method Blank Summary
Form 4
Volatiles

Client	: **GEI Consultants**	**Lab Number**	: **L2326188**
Project Name	: **TUFTS ST.**	**Project Number**	: **045163**
Lab Sample ID	: **WG1782114-5**	**Lab File ID**	: **V16230522A08**
Instrument ID	: **VOA116**		
Matrix	: **WATER**	**Analysis Date**	: **05/22/23 10:33**

Client Sample No.	Lab Sample ID	Analysis Date
WG1782114-3LCS	WG1782114-3	05/22/23 07:40
WG1782114-4LCSD	WG1782114-4	05/22/23 08:05
045163-103WASH-SUMP	L2326188-01	05/22/23 18:37

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2326188	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 05/22/23 07:40	
Lab File ID	: V16230522A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1782114-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	94	0
Dichlorodifluoromethane	0.25	0.34	-	-36*	20	123	0
Chloromethane	0.423	0.485	-	-14.7	20	109	0
Vinyl chloride	0.31	0.337	-	-8.7	20	103	0
Bromomethane	0.179	0.096	-	46.4*	20	54	0
Chloroethane	0.193	0.205	-	-6.2	20	100	0
Trichlorofluoromethane	0.403	0.501	-	-24.3*	20	115	0
Ethyl ether	0.118	0.105	-	11	20	87	0
1,1-Dichloroethene	0.246	0.248	-	-0.8	20	96	0
Carbon disulfide	0.816	0.898	-	-10	20	105	0
Freon-113	0.287	0.315	-	-9.8	20	103	0
Iodomethane	10	6.698	-	33*	20	72	0
Acrolein	10	8.937	-	10.6	20	96	0
Methylene chloride	0.296	0.299	-	-1	20	97	0
Acetone	0.082	0.07	-	14.6	20	81	0
trans-1,2-Dichloroethene	0.276	0.274	-	0.7	20	95	0
Methyl acetate	0.187	0.197	-	-5.3	20	98	0
Methyl tert-butyl ether	0.587	0.544	-	7.3	20	92	0
tert-Butyl alcohol	0.017	0.017	-	0	20	99	0
Diisopropyl ether	1.205	1.174	-	2.6	20	94	0
1,1-Dichloroethane	0.62	0.637	-	-2.7	20	96	0
Halothane	0.227	0.227	-	0	20	95	0
Acrylonitrile	0.092	0.088	-	4.3	20	90	0
Ethyl tert-butyl ether	0.951	0.916	-	3.7	20	93	0
Vinyl acetate	0.572	0.726	-	-26.9*	20	161	0
cis-1,2-Dichloroethene	0.302	0.301	-	0.3	20	94	0
2,2-Dichloropropane	0.404	0.479	-	-18.6	20	122	0
Bromochloromethane	0.123	0.138	-	-12.2	20	97	0
Cyclohexane	0.644	0.666	-	-3.4	20	97	0
Chloroform	0.567	0.594	-	-4.8	20	97	0
Ethyl acetate	0.266	0.257	-	3.4	20	90	0
Carbon tetrachloride	0.423	0.471	-	-11.3	20	102	0
Tetrahydrofuran	0.093	0.089	-	4.3	20	92	0
Dibromofluoromethane	0.291	0.295	-	-1.4	20	101	0
1,1,1-Trichloroethane	0.452	0.493	-	-9.1	20	103	0
2-Butanone	0.116	0.117	-	-0.9	20	93	0
1,1-Dichloropropene	0.39	0.387	-	0.8	20	94	0
Benzene	1.139	1.135	-	0.4	20	92	0
tert-Amyl methyl ether	0.665	0.607	-	8.7	20	89	0
1,2-Dichloroethane-d4	0.359	0.367	-	-2.2	20	101	0
1,2-Dichloroethane	0.437	0.455	-	-4.1	20	99	0
Methyl cyclohexane	0.498	0.493	-	1	20	95	0
Trichloroethene	0.311	0.315	-	-1.3	20	87	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2326188
Project Name	: TUFTS ST.	**Project Number**	: 045163
Instrument ID	: VOA116	**Calibration Date**	: 05/22/23 07:40
Lab File ID	: V16230522A01	**Init. Calib. Date(s)**	: 04/25/23 04/25/23
Sample No	: WG1782114-2	**Init. Calib. Times**	: 19:13 22:53
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.162	0.165	-	-1.9	20	93	0
1,2-Dichloropropane	0.349	0.335	-	4	20	91	0
2-Chloroethyl vinyl ether	0.149	0.082	-	45*	20	56	0
Bromodichloromethane	0.453	0.483	-	-6.6	20	99	0
1,4-Dioxane	0.00133	0.00132*	-	0.8	20	100	0
cis-1,3-Dichloropropene	0.462	0.43	-	6.9	20	83	0
Chlorobenzene-d5	1	1	-	0	20	104	0
Toluene-d8	1.29	1.244	-	3.6	20	99	0
Toluene	0.936	0.88	-	6	20	94	0
4-Methyl-2-pentanone	0.114	0.084	-	26.3*	20	81	0
Tetrachloroethene	0.402	0.398	-	1	20	97	0
trans-1,3-Dichloropropene	0.511	0.493	-	3.5	20	95	0
Ethyl methacrylate	0.392	0.283	-	27.8*	20	83	0
1,1,2-Trichloroethane	0.263	0.245	-	6.8	20	90	0
Chlorodibromomethane	0.378	0.361	-	4.5	20	98	0
1,3-Dichloropropane	0.545	0.49	-	10.1	20	89	0
1,2-Dibromoethane	0.294	0.269	-	8.5	20	91	0
2-Hexanone	0.21	0.165	-	21.4*	20	89	0
Chlorobenzene	1.024	0.957	-	6.5	20	94	0
Ethylbenzene	1.728	1.616	-	6.5	20	93	0
1,1,1,2-Tetrachloroethane	0.381	0.379	-	0.5	20	100	0
p/m Xylene	0.649	0.648	-	0.2	20	96	0
o Xylene	0.616	0.589	-	4.4	20	93	0
Styrene	1.027	1.038	-	-1.1	20	94	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	111	0
Bromoform	0.407	0.358	-	12	20	97	0
Isopropylbenzene	3.111	2.623	-	15.7	20	95	0
4-Bromofluorobenzene	0.86	0.785	-	8.7	20	104	0
Bromobenzene	0.755	0.663	-	12.2	20	97	0
n-Propylbenzene	3.738	3.414	-	8.7	20	97	0
1,4-Dichlorobutane	1.199	1.052	-	12.3	20	93	0
1,1,2,2-Tetrachloroethane	0.676	0.594	-	12.1	20	102	0
4-Ethyltoluene	3.128	2.714	-	13.2	20	97	0
2-Chlorotoluene	2.609	2.471	-	5.3	20	99	0
1,3,5-Trimethylbenzene	2.655	2.352	-	11.4	20	99	0
1,2,3-Trichloropropane	0.55	0.477	-	13.3	20	93	0
trans-1,4-Dichloro-2-buten	0.251	0.217	-	13.5	20	98	0
4-Chlorotoluene	2.311	2.12	-	8.3	20	98	0
tert-Butylbenzene	2.245	1.922	-	14.4	20	98	0
1,2,4-Trimethylbenzene	2.529	2.225	-	12	20	99	0
sec-Butylbenzene	3.486	3.261	-	6.5	20	96	0
p-Isopropyltoluene	10	8.296	-	17	20	100	0
1,3-Dichlorobenzene	1.477	1.397	-	5.4	20	101	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants		**Lab Number**	: L2326188	
Project Name	: TUFTS ST.		**Project Number**	: 045163	
Instrument ID	: VOA116		**Calibration Date**	: 05/22/23 07:40	
Lab File ID	: V16230522A01		**Init. Calib. Date(s)**	: 04/25/23	04/25/23
Sample No	: WG1782114-2		**Init. Calib. Times**	: 19:13	22:53
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.485	1.366	-	8	20	100	0
p-Diethylbenzene	1.588	1.308	-	17.6	20	101	0
n-Butylbenzene	10	8.282	-	17.2	20	101	0
1,2-Dichlorobenzene	1.364	1.227	-	10	20	97	0
1,2,4,5-Tetramethylbenzene	10	8.212	-	17.9	20	111	0
1,2-Dibromo-3-chloropropan	0.096	0.079	-	17.7	20	92	0
1,3,5-Trichlorobenzene	0.865	0.796	-	8	20	106	0
Hexachlorobutadiene	0.314	0.315	-	-0.3	20	114	0
1,2,4-Trichlorobenzene	0.733	0.567	-	22.6*	20	101	0
Naphthalene	10	7.444	-	25.6*	20	102	0
1,2,3-Trichlorobenzene	0.638	0.521	-	18.3	20	103	0

*** Value outside of QC limits.**

CERTIFICATE OF ANALYSIS

Chris Coner
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: Tufts Street (045163)
ESS Laboratory Work Order Number: 23F0033

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:07 pm, Jun 09, 2023

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

SAMPLE RECEIPT

The following samples were received on June 01, 2023 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for VOCs were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
23F0033-01	045163-10MORT-DISP	Soil	8260B

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Methanol
D3F0038-CCV1 **Calibration required quadratic regression (Q).**
1,2,3-Trichlorobenzene (101% @ 80-120%), 1,2,4-Trichlorobenzene (110% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23F0033-01**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(x) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (x) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (x) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (x)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 09, 2023

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street
Client Sample ID: 045163-10MORT-DISP
Date Sampled: 05/31/23 10:30
Percent Solids: N/A
Initial Volume: 7.5g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0033
ESS Laboratory Sample ID: 23F0033-01
Sample Matrix: Soil
Units: mg/kg wet
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1,1-Trichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1,2,2-Tetrachloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1,2-Trichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1-Dichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1-Dichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,1-Dichloropropene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2,3-Trichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2,3-Trichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2,4-Trichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dibromo-3-Chloropropane	ND (2.00)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dichloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,2-Dichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,3-Dichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,3-Dichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
1,4-Dichlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
2,2-Dichloropropane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
2-Chlorotoluene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
4-Chlorotoluene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Bromochloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Bromodichloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chlorobenzene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chloroethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chloroform	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Chloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
cis-1,2-Dichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
cis-1,3-Dichloropropene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Dibromochloromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Dichlorodifluoromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Hexachlorobutadiene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Methylene Chloride	ND (0.800)		8260B		1	06/02/23 11:56	D3F0038	DF30217

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street
Client Sample ID: 045163-10MORT-DISP
Date Sampled: 05/31/23 10:30
Percent Solids: N/A
Initial Volume: 7.5g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0033
ESS Laboratory Sample ID: 23F0033-01
Sample Matrix: Soil
Units: mg/kg wet
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrachloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
trans-1,2-Dichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
trans-1,3-Dichloropropene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Trichloroethene	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Trichlorofluoromethane	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217
Vinyl Chloride	ND (0.400)		8260B		1	06/02/23 11:56	D3F0038	DF30217

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*104 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*106 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DF30217 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,1-Trichloroethane	ND	0.200	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,2-Trichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethene	ND	0.200	mg/kg wet							
1,1-Dichloropropene	ND	0.200	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,3-Trichloropropane	ND	0.200	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	1.00	mg/kg wet							
1,2-Dichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dichloroethane	ND	0.200	mg/kg wet							
1,2-Dichloropropane	ND	0.200	mg/kg wet							
1,3-Dichlorobenzene	ND	0.200	mg/kg wet							
1,3-Dichloropropane	ND	0.200	mg/kg wet							
1,4-Dichlorobenzene	ND	0.200	mg/kg wet							
2,2-Dichloropropane	ND	0.200	mg/kg wet							
2-Chlorotoluene	ND	0.200	mg/kg wet							
4-Chlorotoluene	ND	0.200	mg/kg wet							
Bromochloromethane	ND	0.200	mg/kg wet							
Bromodichloromethane	ND	0.200	mg/kg wet							
Chlorobenzene	ND	0.200	mg/kg wet							
Chloroethane	ND	0.200	mg/kg wet							
Chloroform	ND	0.200	mg/kg wet							
Chloromethane	ND	0.200	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.200	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Dibromochloromethane	ND	0.200	mg/kg wet							
Dichlorodifluoromethane	ND	0.200	mg/kg wet							
Hexachlorobutadiene	ND	0.200	mg/kg wet							
Methylene Chloride	ND	0.400	mg/kg wet							
Tetrachloroethene	ND	0.200	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.200	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Trichloroethene	ND	0.200	mg/kg wet							
Trichlorofluoromethane	ND	0.200	mg/kg wet							
Vinyl Chloride	ND	0.200	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*4.87*		mg/kg wet	*5.000*		*97*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.00*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*4.99*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	1.97	0.200	mg/kg wet	2.000		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DF30217 - 5035										
1,1,1-Trichloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,1,2,2-Tetrachloroethane	1.93	0.200	mg/kg wet	2.000		97	70-130			
1,1,2-Trichloroethane	1.90	0.200	mg/kg wet	2.000		95	70-130			
1,1-Dichloroethane	1.89	0.200	mg/kg wet	2.000		94	70-130			
1,1-Dichloroethene	1.83	0.200	mg/kg wet	2.000		91	70-130			
1,1-Dichloropropene	1.96	0.200	mg/kg wet	2.000		98	70-130			
1,2,3-Trichlorobenzene	1.81	0.200	mg/kg wet	2.000		91	70-130			
1,2,3-Trichloropropane	1.85	0.200	mg/kg wet	2.000		93	70-130			
1,2,4-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,2-Dibromo-3-Chloropropane	1.68	1.00	mg/kg wet	2.000		84	70-130			
1,2-Dichlorobenzene	1.91	0.200	mg/kg wet	2.000		96	70-130			
1,2-Dichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130			
1,2-Dichloropropane	1.91	0.200	mg/kg wet	2.000		96	70-130			
1,3-Dichlorobenzene	1.89	0.200	mg/kg wet	2.000		94	70-130			
1,3-Dichloropropane	2.02	0.200	mg/kg wet	2.000		101	70-130			
1,4-Dichlorobenzene	2.03	0.200	mg/kg wet	2.000		102	70-130			
2,2-Dichloropropane	1.93	0.200	mg/kg wet	2.000		96	70-130			
2-Chlorotoluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
4-Chlorotoluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Bromochloromethane	1.91	0.200	mg/kg wet	2.000		96	70-130			
Bromodichloromethane	1.93	0.200	mg/kg wet	2.000		96	70-130			
Chlorobenzene	1.87	0.200	mg/kg wet	2.000		93	70-130			
Chloroethane	2.03	0.200	mg/kg wet	2.000		102	70-130			
Chloroform	1.92	0.200	mg/kg wet	2.000		96	70-130			
Chloromethane	1.68	0.200	mg/kg wet	2.000		84	70-130			
cis-1,2-Dichloroethene	1.95	0.200	mg/kg wet	2.000		97	70-130			
cis-1,3-Dichloropropene	1.86	0.200	mg/kg wet	2.000		93	70-130			
Dibromochloromethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
Dichlorodifluoromethane	1.60	0.200	mg/kg wet	2.000		80	70-130			
Hexachlorobutadiene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Methylene Chloride	1.93	0.400	mg/kg wet	2.000		96	70-130			
Tetrachloroethene	1.82	0.200	mg/kg wet	2.000		91	70-130			
trans-1,2-Dichloroethene	1.95	0.200	mg/kg wet	2.000		98	70-130			
trans-1,3-Dichloropropene	1.70	0.200	mg/kg wet	2.000		85	70-130			
Trichloroethene	1.93	0.200	mg/kg wet	2.000		96	70-130			
Trichlorofluoromethane	1.80	0.200	mg/kg wet	2.000		90	70-130			
Vinyl Chloride	1.97	0.200	mg/kg wet	2.000		99	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.93*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*4.94*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Toluene-d8	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	1.98	0.200	mg/kg wet	2.000		99	70-130	0.6	25	
1,1,1-Trichloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130	0.1	25	
1,1,2,2-Tetrachloroethane	1.93	0.200	mg/kg wet	2.000		97	70-130	0.1	25	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DF30217 - 5035										
1,1,2-Trichloroethane	1.92	0.200	mg/kg wet	2.000		96	70-130	1	25	
1,1-Dichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130	0.3	25	
1,1-Dichloroethene	1.85	0.200	mg/kg wet	2.000		92	70-130	1	25	
1,1-Dichloropropene	1.98	0.200	mg/kg wet	2.000		99	70-130	1	25	
1,2,3-Trichlorobenzene	1.78	0.200	mg/kg wet	2.000		89	70-130	2	25	
1,2,3-Trichloropropane	1.86	0.200	mg/kg wet	2.000		93	70-130	0.3	25	
1,2,4-Trichlorobenzene	1.91	0.200	mg/kg wet	2.000		95	70-130	1	25	
1,2-Dibromo-3-Chloropropane	1.68	1.00	mg/kg wet	2.000		84	70-130	0	25	
1,2-Dichlorobenzene	1.92	0.200	mg/kg wet	2.000		96	70-130	0.4	25	
1,2-Dichloroethane	1.86	0.200	mg/kg wet	2.000		93	70-130	2	25	
1,2-Dichloropropane	1.90	0.200	mg/kg wet	2.000		95	70-130	0.3	25	
1,3-Dichlorobenzene	1.91	0.200	mg/kg wet	2.000		95	70-130	0.9	25	
1,3-Dichloropropane	2.00	0.200	mg/kg wet	2.000		100	70-130	1	25	
1,4-Dichlorobenzene	2.01	0.200	mg/kg wet	2.000		100	70-130	1	25	
2,2-Dichloropropane	1.92	0.200	mg/kg wet	2.000		96	70-130	0.4	25	
2-Chlorotoluene	1.96	0.200	mg/kg wet	2.000		98	70-130	0.8	25	
4-Chlorotoluene	1.93	0.200	mg/kg wet	2.000		96	70-130	0.5	25	
Bromochloromethane	1.86	0.200	mg/kg wet	2.000		93	70-130	3	25	
Bromodichloromethane	1.92	0.200	mg/kg wet	2.000		96	70-130	0.1	25	
Chlorobenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	0.3	25	
Chloroethane	2.00	0.200	mg/kg wet	2.000		100	70-130	2	25	
Chloroform	1.89	0.200	mg/kg wet	2.000		94	70-130	1	25	
Chloromethane	1.70	0.200	mg/kg wet	2.000		85	70-130	0.7	25	
cis-1,2-Dichloroethene	1.88	0.200	mg/kg wet	2.000		94	70-130	4	25	
cis-1,3-Dichloropropene	1.84	0.200	mg/kg wet	2.000		92	70-130	1	25	
Dibromochloromethane	1.87	0.200	mg/kg wet	2.000		94	70-130	0.5	25	
Dichlorodifluoromethane	1.70	0.200	mg/kg wet	2.000		85	70-130	6	25	
Hexachlorobutadiene	2.00	0.200	mg/kg wet	2.000		100	70-130	6	25	
Methylene Chloride	1.94	0.400	mg/kg wet	2.000		97	70-130	0.5	25	
Tetrachloroethene	1.89	0.200	mg/kg wet	2.000		95	70-130	4	25	
trans-1,2-Dichloroethene	1.99	0.200	mg/kg wet	2.000		100	70-130	2	25	
trans-1,3-Dichloropropene	1.68	0.200	mg/kg wet	2.000		84	70-130	1	25	
Trichloroethene	1.91	0.200	mg/kg wet	2.000		95	70-130	1	25	
Trichlorofluoromethane	1.86	0.200	mg/kg wet	2.000		93	70-130	3	25	
Vinyl Chloride	1.96	0.200	mg/kg wet	2.000		98	70-130	0.7	25	
Surrogate: 1,2-Dichloroethane-d4	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.95*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*4.92*		mg/kg wet	*5.000*		*98*	*70-130*			
Surrogate: Toluene-d8	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tufts Street

ESS Laboratory Work Order: 23F0033

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23F0033
Date Received: 6/1/2023
Project Due Date: 6/8/2023
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.4 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? (Yes) / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: _____ Time: _____ By/Acid Lot#: _____
    b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

Did not receive jar for % solids

14. Was there a need to contact Project Manager? (Yes) / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Molly Forrest Date: 6/5/23 Time: _____ By: ML

Resolution: report without % solids

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	437250	Yes	N/A	Yes	VOA Vial	MeOH	

2nd Review
Were all containers scanned into storage/lab? Initials _____ (Yes) / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/1/23 1842
Reviewed By: Taylor Date & Time: 6/1/23 1848

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 23F0033

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Tufts St
Project Number: 045163
Project Location: Somerville, MA
Project Manager: Chris Coner CCONER@geiconsultants.com
Send Report to: Molly Forrest & Chris Coner MFORREST@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative: MeOH	Preservative: High Level VOCs & CVOCs	Sample Specific Remarks
1	~~10MORT-DISP~~ 045163-10MORT-DISP CMC 5/31	5/31/23	10:30	SO	1	CMG		X	

Sample Handling

Samples Field Filtered: YES (NO) NA

Sampled Shipped With Ice: YES NO

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	CMcCallum Coner	5/31/23	11:25	GEI Fridge
2.	GEI Fridge	6/1/23	1320	
3.		6/1/23	1325	AO 6/1/23 1325
4.	AO 1.4 on ice	6/1/23	1606	
5.				

Turnaround Time (Business days):

Normal X 4-Day ____ 3-Day ____ 2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you must notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

CERTIFICATE OF ANALYSIS

Chris Coner
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: 50 Tufts Street (045163)
ESS Laboratory Work Order Number: 23E0474

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:13 pm, May 23, 2023

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

SAMPLE RECEIPT

The following samples were received on May 12, 2023 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
23E0474-01	045163-50 Tufts-Tank B	Solid	1311, 1311/8260B, 1311/8270D, 8260B, 8270D

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

PROJECT NARRATIVE

1311/8270D Semi Volatile TCLP Compounds

DE31805-BSD1 **Surrogate recovery(ies) above upper control limit (S+).**
2,4,6-Tribromophenol (113% @ 15-110%)

5035/8260B Volatile Organic Compounds / Methanol

23E0474-01 **Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).**
4-Bromofluorobenzene (38% @ 70-130%), Toluene-d8 (60% @ 70-130%)

D3E0308-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Tetrachloroethene (21% @ 20%)

8270D Semi-Volatile Organic Compounds

23E0474-01 **Elevated Method Reporting Limits due to sample matrix (EL).**

23E0474-01 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**

D3E0293-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (130% @ 80-120%), Pentachlorophenol (117% @ 80-120%)

D3E0293-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
2,4-Dinitrophenol (30% @ 20%), 2-Nitrophenol (22% @ 20%)

TCLP Extraction by 1311

23E0474-01 **Reduced weight used for TCLP/SPLP Extraction.**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23E0474-01**

Matrices: ( ) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air (x) Other: Solid

CAM Protocol (check all that apply below):

(x) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(x) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes ( ) No (x)*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: May 23, 2023

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/L
Analyst: MD

1311/8260B Volatile TCLP Compounds

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyzed	Sequence	Batch
1,1-Dichloroethene	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
1,2-Dichloroethane	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
1,4-Dichlorobenzene	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
2-Butanone	ND (2.50)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Benzene	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Carbon Tetrachloride	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Chlorobenzene	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Chloroform	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Tetrachloroethene	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Trichloroethene	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618
Vinyl Chloride	ND (0.100)		1311/8260B		1	05/16/23 12:28	D3E0307	DE31618

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*97 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 200ml
Final Volume: 1ml
Extraction Method: 3520C

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/L
Analyst: TJ
Prepared: 5/18/23 14:00

1311/8270D Semi Volatile TCLP Compounds

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyzed	Sequence	Batch
2,4,5-Trichlorophenol	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
2,4,6-Trichlorophenol	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
2,4-Dinitrotoluene	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
2-Methylphenol	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
3+4-Methylphenol	ND (0.10)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
Hexachlorobenzene	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
Hexachlorobutadiene	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
Hexachloroethane	ND (0.02)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
Nitrobenzene	ND (0.05)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
Pentachlorophenol	ND (0.25)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805
Pyridine	ND (0.50)		1311/8270D		1	05/22/23 17:12	D3E0429	DE31805

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*82 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*99 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*86 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*88 %*		*30-130*
Surrogate: 2-Fluorophenol	*85 %*		*15-110*
Surrogate: Nitrobenzene-d5	*85 %*		*30-130*
Surrogate: Phenol-d6	*89 %*		*15-110*
Surrogate: p-Terphenyl-d14	*108 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 2.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,1,1-Trichloroethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,1,2,2-Tetrachloroethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,1,2-Trichloroethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,1-Dichloroethane	**5.74** (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,1-Dichloroethene	**5.79** (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,1-Dichloropropene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2,3-Trichlorobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2,3-Trichloropropane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2,4-Trichlorobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2,4-Trimethylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2-Dibromo-3-Chloropropane	ND (6.52)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2-Dibromoethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2-Dichlorobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2-Dichloroethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,2-Dichloropropane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,3,5-Trimethylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,3-Dichlorobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,3-Dichloropropane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,4-Dichlorobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
1,4-Dioxane - Screen	ND (261)		8260B		1	05/16/23 12:48	D3E0308	DE31619
2,2-Dichloropropane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
2-Butanone	ND (6.52)		8260B		1	05/16/23 12:48	D3E0308	DE31619
2-Chlorotoluene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
2-Hexanone	ND (6.52)		8260B		1	05/16/23 12:48	D3E0308	DE31619
4-Chlorotoluene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
4-Isopropyltoluene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
4-Methyl-2-Pentanone	ND (6.52)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Acetone	**40.3** (6.52)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Benzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Bromobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Bromochloromethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 2.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Bromoform	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Bromomethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Carbon Disulfide	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Carbon Tetrachloride	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Chlorobenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Chloroethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Chloroform	**1.67** (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Chloromethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
cis-1,2-Dichloroethene	**5.53** (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
cis-1,3-Dichloropropene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Dibromochloromethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Dibromomethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Dichlorodifluoromethane	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Diethyl Ether	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Di-isopropyl ether	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Ethyl tertiary-butyl ether	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Ethylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Hexachlorobutadiene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Isopropylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Methyl tert-Butyl Ether	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Methylene Chloride	ND (2.61)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Naphthalene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
n-Butylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
n-Propylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
sec-Butylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Styrene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
tert-Butylbenzene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Tertiary-amyl methyl ether	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Tetrachloroethene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Tetrahydrofuran	ND (6.52)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Toluene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 2.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
trans-1,3-Dichloropropene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Trichloroethene	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Trichlorofluoromethane	**3.77** (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Vinyl Chloride	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Xylene O	ND (1.30)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Xylene P,M	ND (2.61)		8260B		1	05/16/23 12:48	D3E0308	DE31619
Xylenes (Total)	ND (2.61)		8260B		1	05/16/23 12:48		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*106 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*38 %*	*SC*	*70-130*
Surrogate: Dibromofluoromethane	*109 %*		*70-130*
Surrogate: Toluene-d8	*60 %*	*SC*	*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 10g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.050)		8270D		1	05/15/23 19:08	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,4-Dinitrophenol	ND (2.00)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2-Chloronaphthalene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2-Chlorophenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2-Methylnaphthalene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2-Methylphenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
2-Nitrophenol	ND (1.00)		8270D		1	05/15/23 19:08	D3E0293	DE31516
3,3′-Dichlorobenzidine	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
3+4-Methylphenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
4-Chloroaniline	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
4-Nitrophenol	ND (2.00)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Acenaphthene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Acenaphthylene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Acetophenone	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Aniline	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Anthracene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Azobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Benzo(a)anthracene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Benzo(a)pyrene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Benzo(b)fluoranthene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Benzo(g,h,i)perylene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 10g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Butylbenzylphthalate	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Chrysene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Dibenzo(a,h)Anthracene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Dibenzofuran	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Diethylphthalate	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Dimethylphthalate	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Di-n-butylphthalate	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Di-n-octylphthalate	ND (1.00)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Fluoranthene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Fluorene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Hexachlorobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Hexachlorobutadiene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Hexachloroethane	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Isophorone	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Naphthalene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Nitrobenzene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Pentachlorophenol	ND (2.00)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Phenanthrene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Phenol	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516
Pyrene	ND (0.500)		8270D		1	05/15/23 19:08	D3E0293	DE31516

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*22 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*4 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*4 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 10g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*8 %*		*30-130*				
Surrogate: 2-Fluorophenol		*4 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*15 %*		*30-130*				
Surrogate: Phenol-d6		*6 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*%*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 50g
Final Volume: 1000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: °C
Analyst: ESC
Prepared: 5/15/23 20:12

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.3** (N/A)		1311		1	ESC	05/16/23 12:53	DE31561
Temperature (Max C)	**22.5** (N/A)		1311		1	ESC	05/16/23 12:53	DE31561
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street
Client Sample ID: 045163-50 Tufts-Tank B
Date Sampled: 05/11/23 10:30
Percent Solids: 100
Initial Volume: 25ml
Final Volume: 500ml
Extraction Method: 5030B TCLP

ESS Laboratory Work Order: 23E0474
ESS Laboratory Sample ID: 23E0474-01
Sample Matrix: Solid
Units: °C
Analyst: MD
Prepared: 5/15/23 15:04

ZHE Extraction by 1311

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**22.5** (N/A)		1311		1	MD	05/16/23 7:41	DE31625
Temperature (Max C)	**23.5** (N/A)		1311		1	MD	05/16/23 7:41	DE31625
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311/8260B Volatile TCLP Compounds										
Batch DE31618 - 5030B										
Blank										
1,1-Dichloroethene	ND	0.0050	mg/L							
1,2-Dichloroethane	ND	0.0050	mg/L							
1,4-Dichlorobenzene	ND	0.0050	mg/L							
2-Butanone	ND	0.125	mg/L							
Benzene	ND	0.0050	mg/L							
Carbon Tetrachloride	ND	0.0050	mg/L							
Chlorobenzene	ND	0.0050	mg/L							
Chloroform	ND	0.0050	mg/L							
Tetrachloroethene	ND	0.0050	mg/L							
Trichloroethene	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0050	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0240*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0251*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0228*		mg/L	*0.02500*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0255*		mg/L	*0.02500*		*102*	*70-130*			
LCS										
1,1-Dichloroethene	0.0096	0.0010	mg/L	0.01000		97	70-130			
1,2-Dichloroethane	0.0094	0.0010	mg/L	0.01000		94	70-130			
1,4-Dichlorobenzene	0.0100	0.0010	mg/L	0.01000		100	70-130			
2-Butanone	0.0551	0.0250	mg/L	0.05000		110	70-130			
Benzene	0.0101	0.0010	mg/L	0.01000		101	70-130			
Carbon Tetrachloride	0.0088	0.0010	mg/L	0.01000		88	70-130			
Chlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130			
Chloroform	0.0092	0.0010	mg/L	0.01000		92	70-130			
Tetrachloroethene	0.0094	0.0010	mg/L	0.01000		94	70-130			
Trichloroethene	0.0093	0.0010	mg/L	0.01000		93	70-130			
Vinyl Chloride	0.0087	0.0010	mg/L	0.01000		87	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0256*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0235*		mg/L	*0.02500*		*94*	*70-130*			
Surrogate: Toluene-d8	*0.0257*		mg/L	*0.02500*		*103*	*70-130*			
LCS Dup										
1,1-Dichloroethene	0.0095	0.0010	mg/L	0.01000		95	70-130	2	25	
1,2-Dichloroethane	0.0091	0.0010	mg/L	0.01000		91	70-130	3	25	
1,4-Dichlorobenzene	0.0100	0.0010	mg/L	0.01000		100	70-130	0.1	25	
2-Butanone	0.0566	0.0250	mg/L	0.05000		113	70-130	3	25	
Benzene	0.0103	0.0010	mg/L	0.01000		103	70-130	3	25	
Carbon Tetrachloride	0.0083	0.0010	mg/L	0.01000		83	70-130	6	25	
Chlorobenzene	0.0100	0.0010	mg/L	0.01000		100	70-130	2	25	
Chloroform	0.0092	0.0010	mg/L	0.01000		92	70-130	0	25	
Tetrachloroethene	0.0092	0.0010	mg/L	0.01000		92	70-130	3	25	
Trichloroethene	0.0092	0.0010	mg/L	0.01000		92	70-130	1	25	
Vinyl Chloride	0.0089	0.0010	mg/L	0.01000		89	70-130	2	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0231*		mg/L	*0.02500*		*92*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311/8260B Volatile TCLP Compounds										
Batch DE31618 - 5030B										
Surrogate: 4-Bromofluorobenzene	*0.0244*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0240*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0250*		mg/L	*0.02500*		*100*	*70-130*			
1311/8270D Semi Volatile TCLP Compounds										
Batch DE31805 - 3520C										
Blank										
2,4,5-Trichlorophenol	ND	0.05	mg/L							
2,4,6-Trichlorophenol	ND	0.05	mg/L							
2,4-Dinitrotoluene	ND	0.05	mg/L							
2-Methylphenol	ND	0.05	mg/L							
3+4-Methylphenol	ND	0.10	mg/L							
Hexachlorobenzene	ND	0.05	mg/L							
Hexachlorobutadiene	ND	0.05	mg/L							
Hexachloroethane	ND	0.02	mg/L							
Nitrobenzene	ND	0.05	mg/L							
Pentachlorophenol	ND	0.25	mg/L							
Pyridine	ND	0.50	mg/L							
Surrogate: 1,2-Dichlorobenzene-d4	*0.430*		mg/L	*0.5000*		*86*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*0.766*		mg/L	*0.7500*		*102*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*0.667*		mg/L	*0.7500*		*89*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*0.468*		mg/L	*0.5000*		*94*	*30-130*			
Surrogate: 2-Fluorophenol	*0.668*		mg/L	*0.7500*		*89*	*15-110*			
Surrogate: Nitrobenzene-d5	*0.445*		mg/L	*0.5000*		*89*	*30-130*			
Surrogate: Phenol-d6	*0.690*		mg/L	*0.7500*		*92*	*15-110*			
Surrogate: p-Terphenyl-d14	*0.563*		mg/L	*0.5000*		*113*	*30-130*			
LCS										
2,4,5-Trichlorophenol	0.10	0.01	mg/L	0.1000		97	30-130			
2,4,6-Trichlorophenol	0.10	0.01	mg/L	0.1000		99	30-130			
2,4-Dinitrotoluene	0.10	0.01	mg/L	0.1000		99	40-140			
2-Methylphenol	0.08	0.01	mg/L	0.1000		77	30-130			
3+4-Methylphenol	0.17	0.02	mg/L	0.2000		84	30-130			
Hexachlorobenzene	0.09	0.01	mg/L	0.1000		91	40-140			
Hexachlorobutadiene	0.07	0.01	mg/L	0.1000		71	40-140			
Hexachloroethane	0.08	0.005	mg/L	0.1000		78	40-140			
Nitrobenzene	0.07	0.01	mg/L	0.1000		67	40-140			
Pentachlorophenol	0.08	0.05	mg/L	0.1000		85	30-130			
Pyridine	0.07	0.10	mg/L	0.1000		66	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.0834*		mg/L	*0.1000*		*83*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*0.158*		mg/L	*0.1500*		*105*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*0.126*		mg/L	*0.1500*		*84*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*0.0910*		mg/L	*0.1000*		*91*	*30-130*			
Surrogate: 2-Fluorophenol	*0.123*		mg/L	*0.1500*		*82*	*15-110*			
Surrogate: Nitrobenzene-d5	*0.0702*		mg/L	*0.1000*		*70*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311/8270D Semi Volatile TCLP Compounds										
Batch DE31805 - 3520C										
Surrogate: Phenol-d6	*0.127*		mg/L	*0.1500*		*85*	*15-110*			
Surrogate: p-Terphenyl-d14	*0.101*		mg/L	*0.1000*		*101*	*30-130*			
LCS Dup										
2,4,5-Trichlorophenol	0.10	0.01	mg/L	0.1000		103	30-130	6	20	
2,4,6-Trichlorophenol	0.10	0.01	mg/L	0.1000		98	30-130	1	20	
2,4-Dinitrotoluene	0.10	0.01	mg/L	0.1000		100	40-140	0.9	20	
2-Methylphenol	0.08	0.01	mg/L	0.1000		78	30-130	1	20	
3+4-Methylphenol	0.17	0.02	mg/L	0.2000		84	30-130	0.6	20	
Hexachlorobenzene	0.09	0.01	mg/L	0.1000		95	40-140	4	20	
Hexachlorobutadiene	0.07	0.01	mg/L	0.1000		70	40-140	1	20	
Hexachloroethane	0.08	0.005	mg/L	0.1000		77	40-140	0.8	20	
Nitrobenzene	0.07	0.01	mg/L	0.1000		68	40-140	1	20	
Pentachlorophenol	0.09	0.05	mg/L	0.1000		89	30-130	5	20	
Pyridine	0.07	0.10	mg/L	0.1000		68	40-140	3	20	
Surrogate: 1,2-Dichlorobenzene-d4	*0.0850*		mg/L	*0.1000*		*85*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*0.170*		mg/L	*0.1500*		*113*	*15-110*			*S+*
Surrogate: 2-Chlorophenol-d4	*0.131*		mg/L	*0.1500*		*87*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*0.0974*		mg/L	*0.1000*		*97*	*30-130*			
Surrogate: 2-Fluorophenol	*0.125*		mg/L	*0.1500*		*83*	*15-110*			
Surrogate: Nitrobenzene-d5	*0.0722*		mg/L	*0.1000*		*72*	*30-130*			
Surrogate: Phenol-d6	*0.131*		mg/L	*0.1500*		*88*	*15-110*			
Surrogate: p-Terphenyl-d14	*0.108*		mg/L	*0.1000*		*108*	*30-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch DE31619 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,1-Trichloroethane	ND	0.200	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,2-Trichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethene	ND	0.200	mg/kg wet							
1,1-Dichloropropene	ND	0.200	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,3-Trichloropropane	ND	0.200	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.200	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	1.00	mg/kg wet							
1,2-Dibromoethane	ND	0.200	mg/kg wet							
1,2-Dichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dichloroethane	ND	0.200	mg/kg wet							
1,2-Dichloropropane	ND	0.200	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.200	mg/kg wet							
1,3-Dichlorobenzene	ND	0.200	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DE31619 - 5035										
1,3-Dichloropropane	ND	0.200	mg/kg wet							
1,4-Dichlorobenzene	ND	0.200	mg/kg wet							
1,4-Dioxane - Screen	ND	40.0	mg/kg wet							
2,2-Dichloropropane	ND	0.200	mg/kg wet							
2-Butanone	ND	1.00	mg/kg wet							
2-Chlorotoluene	ND	0.200	mg/kg wet							
2-Hexanone	ND	1.00	mg/kg wet							
4-Chlorotoluene	ND	0.200	mg/kg wet							
4-Isopropyltoluene	ND	0.200	mg/kg wet							
4-Methyl-2-Pentanone	ND	1.00	mg/kg wet							
Acetone	ND	1.00	mg/kg wet							
Benzene	ND	0.200	mg/kg wet							
Bromobenzene	ND	0.200	mg/kg wet							
Bromochloromethane	ND	0.200	mg/kg wet							
Bromodichloromethane	ND	0.200	mg/kg wet							
Bromoform	ND	0.200	mg/kg wet							
Bromomethane	ND	0.200	mg/kg wet							
Carbon Disulfide	ND	0.200	mg/kg wet							
Carbon Tetrachloride	ND	0.200	mg/kg wet							
Chlorobenzene	ND	0.200	mg/kg wet							
Chloroethane	ND	0.200	mg/kg wet							
Chloroform	ND	0.200	mg/kg wet							
Chloromethane	ND	0.200	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.200	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Dibromochloromethane	ND	0.200	mg/kg wet							
Dibromomethane	ND	0.200	mg/kg wet							
Dichlorodifluoromethane	ND	0.200	mg/kg wet							
Diethyl Ether	ND	0.200	mg/kg wet							
Di-isopropyl ether	ND	0.200	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.200	mg/kg wet							
Ethylbenzene	ND	0.200	mg/kg wet							
Hexachlorobutadiene	ND	0.200	mg/kg wet							
Isopropylbenzene	ND	0.200	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.200	mg/kg wet							
Methylene Chloride	ND	0.400	mg/kg wet							
Naphthalene	ND	0.200	mg/kg wet							
n-Butylbenzene	ND	0.200	mg/kg wet							
n-Propylbenzene	ND	0.200	mg/kg wet							
sec-Butylbenzene	ND	0.200	mg/kg wet							
Styrene	ND	0.200	mg/kg wet							
tert-Butylbenzene	ND	0.200	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.200	mg/kg wet							
Tetrachloroethene	ND	0.200	mg/kg wet							
Tetrahydrofuran	ND	1.00	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DE31619 - 5035										
Toluene	ND	0.200	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.200	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Trichloroethene	ND	0.200	mg/kg wet							
Trichlorofluoromethane	ND	0.200	mg/kg wet							
Vinyl Chloride	ND	0.200	mg/kg wet							
Xylene O	ND	0.200	mg/kg wet							
Xylene P,M	ND	0.400	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*5.00*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.00*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*5.00*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*5.00*		mg/kg wet	*5.000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	1.89	0.200	mg/kg wet	2.000		94	70-130			
1,1,1-Trichloroethane	1.86	0.200	mg/kg wet	2.000		93	70-130			
1,1,2,2-Tetrachloroethane	1.83	0.200	mg/kg wet	2.000		92	70-130			
1,1,2-Trichloroethane	1.76	0.200	mg/kg wet	2.000		88	70-130			
1,1-Dichloroethane	1.84	0.200	mg/kg wet	2.000		92	70-130			
1,1-Dichloroethene	1.91	0.200	mg/kg wet	2.000		96	70-130			
1,1-Dichloropropene	1.91	0.200	mg/kg wet	2.000		95	70-130			
1,2,3-Trichlorobenzene	1.63	0.200	mg/kg wet	2.000		81	70-130			
1,2,3-Trichloropropane	1.76	0.200	mg/kg wet	2.000		88	70-130			
1,2,4-Trichlorobenzene	1.67	0.200	mg/kg wet	2.000		84	70-130			
1,2,4-Trimethylbenzene	1.82	0.200	mg/kg wet	2.000		91	70-130			
1,2-Dibromo-3-Chloropropane	1.61	1.00	mg/kg wet	2.000		81	70-130			
1,2-Dibromoethane	1.84	0.200	mg/kg wet	2.000		92	70-130			
1,2-Dichlorobenzene	1.76	0.200	mg/kg wet	2.000		88	70-130			
1,2-Dichloroethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
1,2-Dichloropropane	1.83	0.200	mg/kg wet	2.000		91	70-130			
1,3,5-Trimethylbenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
1,3-Dichlorobenzene	1.83	0.200	mg/kg wet	2.000		91	70-130			
1,3-Dichloropropane	1.92	0.200	mg/kg wet	2.000		96	70-130			
1,4-Dichlorobenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
1,4-Dioxane - Screen	ND	40.0	mg/kg wet	40.00		0	44-241			
2,2-Dichloropropane	1.89	0.200	mg/kg wet	2.000		95	70-130			
2-Butanone	10.1	1.00	mg/kg wet	10.00		101	70-130			
2-Chlorotoluene	1.86	0.200	mg/kg wet	2.000		93	70-130			
2-Hexanone	9.96	1.00	mg/kg wet	10.00		100	70-130			
4-Chlorotoluene	1.86	0.200	mg/kg wet	2.000		93	70-130			
4-Isopropyltoluene	1.87	0.200	mg/kg wet	2.000		94	70-130			
4-Methyl-2-Pentanone	9.31	1.00	mg/kg wet	10.00		93	70-130			
Acetone	10.4	1.00	mg/kg wet	10.00		104	70-130			
Benzene	1.83	0.200	mg/kg wet	2.000		92	70-130			
Bromobenzene	1.87	0.200	mg/kg wet	2.000		93	70-130			
Bromochloromethane	1.85	0.200	mg/kg wet	2.000		93	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DE31619 - 5035										
Bromodichloromethane	1.74	0.200	mg/kg wet	2.000		87	70-130			
Bromoform	1.69	0.200	mg/kg wet	2.000		84	70-130			
Bromomethane	1.95	0.200	mg/kg wet	2.000		97	70-130			
Carbon Disulfide	1.92	0.200	mg/kg wet	2.000		96	70-130			
Carbon Tetrachloride	1.88	0.200	mg/kg wet	2.000		94	70-130			
Chlorobenzene	1.84	0.200	mg/kg wet	2.000		92	70-130			
Chloroethane	1.91	0.200	mg/kg wet	2.000		96	70-130			
Chloroform	1.79	0.200	mg/kg wet	2.000		90	70-130			
Chloromethane	1.52	0.200	mg/kg wet	2.000		76	70-130			
cis-1,2-Dichloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130			
cis-1,3-Dichloropropene	1.76	0.200	mg/kg wet	2.000		88	70-130			
Dibromochloromethane	1.84	0.200	mg/kg wet	2.000		92	70-130			
Dibromomethane	1.81	0.200	mg/kg wet	2.000		90	70-130			
Dichlorodifluoromethane	1.47	0.200	mg/kg wet	2.000		74	70-130			
Diethyl Ether	2.11	0.200	mg/kg wet	2.000		105	70-130			
Di-isopropyl ether	2.01	0.200	mg/kg wet	2.000		101	70-130			
Ethyl tertiary-butyl ether	1.97	0.200	mg/kg wet	2.000		98	70-130			
Ethylbenzene	1.83	0.200	mg/kg wet	2.000		92	70-130			
Hexachlorobutadiene	1.91	0.200	mg/kg wet	2.000		95	70-130			
Isopropylbenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
Methyl tert-Butyl Ether	1.97	0.200	mg/kg wet	2.000		99	70-130			
Methylene Chloride	1.83	0.400	mg/kg wet	2.000		92	70-130			
Naphthalene	1.55	0.200	mg/kg wet	2.000		77	70-130			
n-Butylbenzene	1.84	0.200	mg/kg wet	2.000		92	70-130			
n-Propylbenzene	1.87	0.200	mg/kg wet	2.000		94	70-130			
sec-Butylbenzene	1.85	0.200	mg/kg wet	2.000		92	70-130			
Styrene	1.81	0.200	mg/kg wet	2.000		90	70-130			
tert-Butylbenzene	1.91	0.200	mg/kg wet	2.000		95	70-130			
Tertiary-amyl methyl ether	1.94	0.200	mg/kg wet	2.000		97	70-130			
Tetrachloroethene	1.55	0.200	mg/kg wet	2.000		78	70-130			
Tetrahydrofuran	1.99	1.00	mg/kg wet	2.000		100	70-130			
Toluene	1.82	0.200	mg/kg wet	2.000		91	70-130			
trans-1,2-Dichloroethene	1.90	0.200	mg/kg wet	2.000		95	70-130			
trans-1,3-Dichloropropene	1.60	0.200	mg/kg wet	2.000		80	70-130			
Trichloroethene	1.83	0.200	mg/kg wet	2.000		91	70-130			
Trichlorofluoromethane	1.92	0.200	mg/kg wet	2.000		96	70-130			
Vinyl Chloride	1.79	0.200	mg/kg wet	2.000		89	70-130			
Xylene O	1.87	0.200	mg/kg wet	2.000		94	70-130			
Xylene P,M	3.78	0.400	mg/kg wet	4.000		94	70-130			
Surrogate: 1,2-Dichloroethane-d4	*5.24*		mg/kg wet	*5.000*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	1.86	0.200	mg/kg wet	2.000		93	70-130	2	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DE31619 - 5035										
1,1,1-Trichloroethane	1.85	0.200	mg/kg wet	2.000		93	70-130	0.4	20	
1,1,2,2-Tetrachloroethane	1.76	0.200	mg/kg wet	2.000		88	70-130	4	20	
1,1,2-Trichloroethane	1.70	0.200	mg/kg wet	2.000		85	70-130	4	20	
1,1-Dichloroethane	1.81	0.200	mg/kg wet	2.000		90	70-130	2	20	
1,1-Dichloroethene	1.77	0.200	mg/kg wet	2.000		88	70-130	8	20	
1,1-Dichloropropene	1.90	0.200	mg/kg wet	2.000		95	70-130	0.4	20	
1,2,3-Trichlorobenzene	1.56	0.200	mg/kg wet	2.000		78	70-130	5	20	
1,2,3-Trichloropropane	1.68	0.200	mg/kg wet	2.000		84	70-130	5	20	
1,2,4-Trichlorobenzene	1.63	0.200	mg/kg wet	2.000		81	70-130	3	20	
1,2,4-Trimethylbenzene	1.77	0.200	mg/kg wet	2.000		89	70-130	2	20	
1,2-Dibromo-3-Chloropropane	1.49	1.00	mg/kg wet	2.000		74	70-130	8	20	
1,2-Dibromoethane	1.80	0.200	mg/kg wet	2.000		90	70-130	2	20	
1,2-Dichlorobenzene	1.74	0.200	mg/kg wet	2.000		87	70-130	0.9	20	
1,2-Dichloroethane	1.85	0.200	mg/kg wet	2.000		93	70-130	1	20	
1,2-Dichloropropane	1.82	0.200	mg/kg wet	2.000		91	70-130	0.3	20	
1,3,5-Trimethylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130	2	20	
1,3-Dichlorobenzene	1.79	0.200	mg/kg wet	2.000		90	70-130	2	20	
1,3-Dichloropropane	1.87	0.200	mg/kg wet	2.000		94	70-130	3	20	
1,4-Dichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	1	20	
1,4-Dioxane - Screen	ND	40.0	mg/kg wet	40.00		0	44-241	200	200	
2,2-Dichloropropane	1.90	0.200	mg/kg wet	2.000		95	70-130	0.4	20	
2-Butanone	9.87	1.00	mg/kg wet	10.00		99	70-130	3	20	
2-Chlorotoluene	1.85	0.200	mg/kg wet	2.000		92	70-130	0.9	20	
2-Hexanone	9.56	1.00	mg/kg wet	10.00		96	70-130	4	20	
4-Chlorotoluene	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
4-Isopropyltoluene	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
4-Methyl-2-Pentanone	8.78	1.00	mg/kg wet	10.00		88	70-130	6	20	
Acetone	10.0	1.00	mg/kg wet	10.00		100	70-130	3	20	
Benzene	1.82	0.200	mg/kg wet	2.000		91	70-130	0.8	20	
Bromobenzene	1.86	0.200	mg/kg wet	2.000		93	70-130	0.6	20	
Bromochloromethane	1.82	0.200	mg/kg wet	2.000		91	70-130	2	20	
Bromodichloromethane	1.82	0.200	mg/kg wet	2.000		91	70-130	4	20	
Bromoform	1.62	0.200	mg/kg wet	2.000		81	70-130	4	20	
Bromomethane	1.78	0.200	mg/kg wet	2.000		89	70-130	9	20	
Carbon Disulfide	1.92	0.200	mg/kg wet	2.000		96	70-130	0.1	20	
Carbon Tetrachloride	1.88	0.200	mg/kg wet	2.000		94	70-130	0.2	20	
Chlorobenzene	1.79	0.200	mg/kg wet	2.000		90	70-130	3	20	
Chloroethane	1.89	0.200	mg/kg wet	2.000		94	70-130	1	20	
Chloroform	1.76	0.200	mg/kg wet	2.000		88	70-130	2	20	
Chloromethane	1.45	0.200	mg/kg wet	2.000		72	70-130	4	20	
cis-1,2-Dichloroethene	1.91	0.200	mg/kg wet	2.000		96	70-130	3	20	
cis-1,3-Dichloropropene	1.74	0.200	mg/kg wet	2.000		87	70-130	1	20	
Dibromochloromethane	1.78	0.200	mg/kg wet	2.000		89	70-130	3	20	
Dibromomethane	1.78	0.200	mg/kg wet	2.000		89	70-130	2	20	
Dichlorodifluoromethane	1.46	0.200	mg/kg wet	2.000		73	70-130	0.7	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DE31619 - 5035										
Diethyl Ether	2.08	0.200	mg/kg wet	2.000		104	70-130	1	20	
Di-isopropyl ether	2.01	0.200	mg/kg wet	2.000		100	70-130	0.1	20	
Ethyl tertiary-butyl ether	1.97	0.200	mg/kg wet	2.000		98	70-130	0	20	
Ethylbenzene	1.81	0.200	mg/kg wet	2.000		91	70-130	1	20	
Hexachlorobutadiene	1.84	0.200	mg/kg wet	2.000		92	70-130	4	20	
Isopropylbenzene	1.89	0.200	mg/kg wet	2.000		95	70-130	2	20	
Methyl tert-Butyl Ether	1.94	0.200	mg/kg wet	2.000		97	70-130	2	20	
Methylene Chloride	1.79	0.400	mg/kg wet	2.000		90	70-130	2	20	
Naphthalene	1.44	0.200	mg/kg wet	2.000		72	70-130	7	20	
n-Butylbenzene	1.81	0.200	mg/kg wet	2.000		91	70-130	2	20	
n-Propylbenzene	1.84	0.200	mg/kg wet	2.000		92	70-130	2	20	
sec-Butylbenzene	1.79	0.200	mg/kg wet	2.000		90	70-130	3	20	
Styrene	1.77	0.200	mg/kg wet	2.000		88	70-130	2	20	
tert-Butylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130	1	20	
Tertiary-amyl methyl ether	1.89	0.200	mg/kg wet	2.000		95	70-130	3	20	
Tetrachloroethene	1.72	0.200	mg/kg wet	2.000		86	70-130	10	20	
Tetrahydrofuran	1.89	1.00	mg/kg wet	2.000		94	70-130	5	20	
Toluene	1.81	0.200	mg/kg wet	2.000		90	70-130	0.9	20	
trans-1,2-Dichloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130	2	20	
trans-1,3-Dichloropropene	1.60	0.200	mg/kg wet	2.000		80	70-130	0	20	
Trichloroethene	1.81	0.200	mg/kg wet	2.000		90	70-130	1	20	
Trichlorofluoromethane	1.84	0.200	mg/kg wet	2.000		92	70-130	4	20	
Vinyl Chloride	1.77	0.200	mg/kg wet	2.000		89	70-130	0.7	20	
Xylene O	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
Xylene P,M	3.70	0.400	mg/kg wet	4.000		92	70-130	2	20	
Surrogate: 1,2-Dichloroethane-d4	*5.18*		mg/kg wet	*5.000*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.93*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*4.98*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.96*		mg/kg wet	*5.000*		*99*	*70-130*			
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Blank										
1,1-Biphenyl	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.250	mg/kg wet							
1,2-Dichlorobenzene	ND	0.250	mg/kg wet							
1,3-Dichlorobenzene	ND	0.250	mg/kg wet							
1,4-Dichlorobenzene	ND	0.250	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.250	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.250	mg/kg wet							
2,4-Dichlorophenol	ND	0.250	mg/kg wet							
2,4-Dimethylphenol	ND	0.250	mg/kg wet							
2,4-Dinitrophenol	ND	1.00	mg/kg wet							
2,4-Dinitrotoluene	ND	0.250	mg/kg wet							
2,6-Dinitrotoluene	ND	0.250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
2-Chloronaphthalene	ND	0.250	mg/kg wet							
2-Chlorophenol	ND	0.250	mg/kg wet							
2-Methylnaphthalene	ND	0.250	mg/kg wet							
2-Methylphenol	ND	0.250	mg/kg wet							
2-Nitrophenol	ND	0.500	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.250	mg/kg wet							
3+4-Methylphenol	ND	0.250	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.250	mg/kg wet							
4-Chloroaniline	ND	0.250	mg/kg wet							
4-Nitrophenol	ND	1.00	mg/kg wet							
Acenaphthene	ND	0.250	mg/kg wet							
Acenaphthylene	ND	0.250	mg/kg wet							
Acetophenone	ND	0.250	mg/kg wet							
Aniline	ND	0.250	mg/kg wet							
Anthracene	ND	0.250	mg/kg wet							
Azobenzene	ND	0.250	mg/kg wet							
Benzo(a)anthracene	ND	0.250	mg/kg wet							
Benzo(a)pyrene	ND	0.250	mg/kg wet							
Benzo(b)fluoranthene	ND	0.250	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.250	mg/kg wet							
Benzo(k)fluoranthene	ND	0.250	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.250	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.250	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.250	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.250	mg/kg wet							
Butylbenzylphthalate	ND	0.250	mg/kg wet							
Chrysene	ND	0.250	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.250	mg/kg wet							
Dibenzofuran	ND	0.250	mg/kg wet							
Diethylphthalate	ND	0.250	mg/kg wet							
Dimethylphthalate	ND	0.250	mg/kg wet							
Di-n-butylphthalate	ND	0.250	mg/kg wet							
Di-n-octylphthalate	ND	0.500	mg/kg wet							
Fluoranthene	ND	0.250	mg/kg wet							
Fluorene	ND	0.250	mg/kg wet							
Hexachlorobenzene	ND	0.250	mg/kg wet							
Hexachlorobutadiene	ND	0.250	mg/kg wet							
Hexachloroethane	ND	0.250	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.250	mg/kg wet							
Isophorone	ND	0.250	mg/kg wet							
Naphthalene	ND	0.250	mg/kg wet							
Nitrobenzene	ND	0.250	mg/kg wet							
N-Nitrosodimethylamine	ND	0.250	mg/kg wet							
Pentachlorophenol	ND	1.00	mg/kg wet							
Phenanthrene	ND	0.250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Phenol	ND	0.250	mg/kg wet							
Pyrene	ND	0.250	mg/kg wet							
Pyridine	ND	0.250	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.33*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.68*		mg/kg wet	*3.750*		*98*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.53*		mg/kg wet	*3.750*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.36*		mg/kg wet	*2.500*		*94*	*30-130*			
Surrogate: 2-Fluorophenol	*3.49*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.32*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: Phenol-d6	*3.46*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.65*		mg/kg wet	*2.500*		*106*	*30-130*			
LCS										
1,1-Biphenyl	2.05	0.025	mg/kg wet	2.500		82	40-140			
1,2,4-Trichlorobenzene	1.89	0.250	mg/kg wet	2.500		76	40-140			
1,2-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		79	40-140			
1,3-Dichlorobenzene	1.96	0.250	mg/kg wet	2.500		78	40-140			
1,4-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		80	40-140			
2,4,5-Trichlorophenol	2.45	0.250	mg/kg wet	2.500		98	30-130			
2,4,6-Trichlorophenol	2.36	0.250	mg/kg wet	2.500		94	30-130			
2,4-Dichlorophenol	2.01	0.250	mg/kg wet	2.500		81	30-130			
2,4-Dimethylphenol	1.85	0.250	mg/kg wet	2.500		74	30-130			
2,4-Dinitrophenol	2.77	1.00	mg/kg wet	2.500		111	30-130			
2,4-Dinitrotoluene	2.63	0.250	mg/kg wet	2.500		105	40-140			
2,6-Dinitrotoluene	2.52	0.250	mg/kg wet	2.500		101	40-140			
2-Chloronaphthalene	2.20	0.250	mg/kg wet	2.500		88	40-140			
2-Chlorophenol	2.05	0.250	mg/kg wet	2.500		82	30-130			
2-Methylnaphthalene	1.86	0.250	mg/kg wet	2.500		75	40-140			
2-Methylphenol	1.98	0.250	mg/kg wet	2.500		79	30-130			
2-Nitrophenol	2.13	0.500	mg/kg wet	2.500		85	30-130			
3,3´-Dichlorobenzidine	2.33	0.250	mg/kg wet	2.500		93	40-140			
3+4-Methylphenol	4.07	0.250	mg/kg wet	5.000		81	30-130			
4-Bromophenyl-phenylether	2.30	0.250	mg/kg wet	2.500		92	40-140			
4-Chloroaniline	1.60	0.250	mg/kg wet	2.500		64	40-140			
4-Nitrophenol	2.09	1.00	mg/kg wet	2.500		84	30-130			
Acenaphthene	2.05	0.250	mg/kg wet	2.500		82	40-140			
Acenaphthylene	2.14	0.250	mg/kg wet	2.500		85	40-140			
Acetophenone	1.98	0.250	mg/kg wet	2.500		79	40-140			
Aniline	1.55	0.250	mg/kg wet	2.500		62	40-140			
Anthracene	2.31	0.250	mg/kg wet	2.500		92	40-140			
Azobenzene	1.93	0.250	mg/kg wet	2.500		77	40-140			
Benzo(a)anthracene	2.54	0.250	mg/kg wet	2.500		102	40-140			
Benzo(a)pyrene	2.81	0.250	mg/kg wet	2.500		112	40-140			
Benzo(b)fluoranthene	2.42	0.250	mg/kg wet	2.500		97	40-140			
Benzo(g,h,i)perylene	2.48	0.250	mg/kg wet	2.500		99	40-140			
Benzo(k)fluoranthene	2.31	0.250	mg/kg wet	2.500		92	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
bis(2-Chloroethoxy)methane	1.64	0.250	mg/kg wet	2.500		66	40-140			
bis(2-Chloroethyl)ether	1.81	0.250	mg/kg wet	2.500		72	40-140			
bis(2-chloroisopropyl)Ether	1.70	0.250	mg/kg wet	2.500		68	40-140			
bis(2-Ethylhexyl)phthalate	2.17	0.250	mg/kg wet	2.500		87	40-140			
Butylbenzylphthalate	2.32	0.250	mg/kg wet	2.500		93	40-140			
Chrysene	2.52	0.250	mg/kg wet	2.500		101	40-140			
Dibenzo(a,h)Anthracene	2.71	0.250	mg/kg wet	2.500		108	40-140			
Dibenzofuran	2.17	0.250	mg/kg wet	2.500		87	40-140			
Diethylphthalate	2.39	0.250	mg/kg wet	2.500		96	40-140			
Dimethylphthalate	2.34	0.250	mg/kg wet	2.500		94	40-140			
Di-n-butylphthalate	2.46	0.250	mg/kg wet	2.500		99	40-140			
Di-n-octylphthalate	2.03	0.500	mg/kg wet	2.500		81	40-140			
Fluoranthene	2.54	0.250	mg/kg wet	2.500		102	40-140			
Fluorene	2.24	0.250	mg/kg wet	2.500		90	40-140			
Hexachlorobenzene	2.49	0.250	mg/kg wet	2.500		99	40-140			
Hexachlorobutadiene	1.99	0.250	mg/kg wet	2.500		80	40-140			
Hexachloroethane	1.97	0.250	mg/kg wet	2.500		79	40-140			
Indeno(1,2,3-cd)Pyrene	2.64	0.250	mg/kg wet	2.500		106	40-140			
Isophorone	1.67	0.250	mg/kg wet	2.500		67	40-140			
Naphthalene	1.74	0.250	mg/kg wet	2.500		70	40-140			
Nitrobenzene	1.79	0.250	mg/kg wet	2.500		71	40-140			
N-Nitrosodimethylamine	1.59	0.250	mg/kg wet	2.500		64	40-140			
Pentachlorophenol	2.74	1.00	mg/kg wet	2.500		109	30-130			
Phenanthrene	2.24	0.250	mg/kg wet	2.500		89	40-140			
Phenol	2.00	0.250	mg/kg wet	2.500		80	30-130			
Pyrene	2.31	0.250	mg/kg wet	2.500		92	40-140			
Pyridine	1.79	0.250	mg/kg wet	2.500		71	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.23*		mg/kg wet	*2.500*		*89*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.26*		mg/kg wet	*3.750*		*114*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.50*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.33*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2-Fluorophenol	*3.42*		mg/kg wet	*3.750*		*91*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.98*		mg/kg wet	*2.500*		*79*	*30-130*			
Surrogate: Phenol-d6	*3.41*		mg/kg wet	*3.750*		*91*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.63*		mg/kg wet	*2.500*		*105*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.14	0.025	mg/kg wet	2.500		86	40-140	4	30	
1,2,4-Trichlorobenzene	2.01	0.250	mg/kg wet	2.500		80	40-140	6	30	
1,2-Dichlorobenzene	2.07	0.250	mg/kg wet	2.500		83	40-140	4	30	
1,3-Dichlorobenzene	2.05	0.250	mg/kg wet	2.500		82	40-140	4	30	
1,4-Dichlorobenzene	2.08	0.250	mg/kg wet	2.500		83	40-140	4	30	
2,4,5-Trichlorophenol	2.54	0.250	mg/kg wet	2.500		102	30-130	4	30	
2,4,6-Trichlorophenol	2.50	0.250	mg/kg wet	2.500		100	30-130	6	30	
2,4-Dichlorophenol	2.15	0.250	mg/kg wet	2.500		86	30-130	7	30	
2,4-Dimethylphenol	1.96	0.250	mg/kg wet	2.500		78	30-130	5	30	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
2,4-Dinitrophenol	2.98	1.00	mg/kg wet	2.500		119	30-130	7	30	
2,4-Dinitrotoluene	2.62	0.250	mg/kg wet	2.500		105	40-140	0.2	30	
2,6-Dinitrotoluene	2.61	0.250	mg/kg wet	2.500		104	40-140	3	30	
2-Chloronaphthalene	2.27	0.250	mg/kg wet	2.500		91	40-140	3	30	
2-Chlorophenol	2.18	0.250	mg/kg wet	2.500		87	30-130	6	30	
2-Methylnaphthalene	1.97	0.250	mg/kg wet	2.500		79	40-140	6	30	
2-Methylphenol	2.07	0.250	mg/kg wet	2.500		83	30-130	4	30	
2-Nitrophenol	2.27	0.500	mg/kg wet	2.500		91	30-130	6	30	
3,3´-Dichlorobenzidine	2.34	0.250	mg/kg wet	2.500		93	40-140	0.4	30	
3+4-Methylphenol	4.27	0.250	mg/kg wet	5.000		85	30-130	5	30	
4-Bromophenyl-phenylether	2.37	0.250	mg/kg wet	2.500		95	40-140	3	30	
4-Chloroaniline	1.64	0.250	mg/kg wet	2.500		66	40-140	3	30	
4-Nitrophenol	2.08	1.00	mg/kg wet	2.500		83	30-130	0.4	30	
Acenaphthene	2.15	0.250	mg/kg wet	2.500		86	40-140	5	30	
Acenaphthylene	2.20	0.250	mg/kg wet	2.500		88	40-140	3	30	
Acetophenone	2.09	0.250	mg/kg wet	2.500		84	40-140	5	30	
Aniline	1.66	0.250	mg/kg wet	2.500		66	40-140	7	30	
Anthracene	2.36	0.250	mg/kg wet	2.500		94	40-140	2	30	
Azobenzene	1.99	0.250	mg/kg wet	2.500		79	40-140	3	30	
Benzo(a)anthracene	2.55	0.250	mg/kg wet	2.500		102	40-140	0.2	30	
Benzo(a)pyrene	2.85	0.250	mg/kg wet	2.500		114	40-140	1	30	
Benzo(b)fluoranthene	2.51	0.250	mg/kg wet	2.500		100	40-140	3	30	
Benzo(g,h,i)perylene	2.41	0.250	mg/kg wet	2.500		97	40-140	3	30	
Benzo(k)fluoranthene	2.40	0.250	mg/kg wet	2.500		96	40-140	4	30	
bis(2-Chloroethoxy)methane	1.75	0.250	mg/kg wet	2.500		70	40-140	6	30	
bis(2-Chloroethyl)ether	1.90	0.250	mg/kg wet	2.500		76	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.82	0.250	mg/kg wet	2.500		73	40-140	7	30	
bis(2-Ethylhexyl)phthalate	2.21	0.250	mg/kg wet	2.500		89	40-140	2	30	
Butylbenzylphthalate	2.35	0.250	mg/kg wet	2.500		94	40-140	1	30	
Chrysene	2.57	0.250	mg/kg wet	2.500		103	40-140	2	30	
Dibenzo(a,h)Anthracene	2.69	0.250	mg/kg wet	2.500		108	40-140	0.8	30	
Dibenzofuran	2.26	0.250	mg/kg wet	2.500		90	40-140	4	30	
Diethylphthalate	2.42	0.250	mg/kg wet	2.500		97	40-140	0.9	30	
Dimethylphthalate	2.41	0.250	mg/kg wet	2.500		96	40-140	3	30	
Di-n-butylphthalate	2.48	0.250	mg/kg wet	2.500		99	40-140	0.8	30	
Di-n-octylphthalate	2.12	0.500	mg/kg wet	2.500		85	40-140	5	30	
Fluoranthene	2.52	0.250	mg/kg wet	2.500		101	40-140	1	30	
Fluorene	2.31	0.250	mg/kg wet	2.500		93	40-140	3	30	
Hexachlorobenzene	2.54	0.250	mg/kg wet	2.500		101	40-140	2	30	
Hexachlorobutadiene	2.14	0.250	mg/kg wet	2.500		86	40-140	7	30	
Hexachloroethane	2.05	0.250	mg/kg wet	2.500		82	40-140	4	30	
Indeno(1,2,3-cd)Pyrene	2.61	0.250	mg/kg wet	2.500		105	40-140	1	30	
Isophorone	1.75	0.250	mg/kg wet	2.500		70	40-140	5	30	
Naphthalene	1.85	0.250	mg/kg wet	2.500		74	40-140	6	30	
Nitrobenzene	1.88	0.250	mg/kg wet	2.500		75	40-140	5	30	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
N-Nitrosodimethylamine	1.65	0.250	mg/kg wet	2.500		66	40-140	3	30	
Pentachlorophenol	2.76	1.00	mg/kg wet	2.500		111	30-130	1	30	
Phenanthrene	2.27	0.250	mg/kg wet	2.500		91	40-140	2	30	
Phenol	2.13	0.250	mg/kg wet	2.500		85	30-130	6	30	
Pyrene	2.40	0.250	mg/kg wet	2.500		96	40-140	4	30	
Pyridine	1.87	0.250	mg/kg wet	2.500		75	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*2.500*		*89*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.18*		mg/kg wet	*3.750*		*111*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.52*		mg/kg wet	*3.750*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.31*		mg/kg wet	*2.500*		*92*	*30-130*			
Surrogate: 2-Fluorophenol	*3.46*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.03*		mg/kg wet	*2.500*		*81*	*30-130*			
Surrogate: Phenol-d6	*3.47*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.62*		mg/kg wet	*2.500*		*105*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
Z17	Temperature is within 23 +/-2 ºC.
U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SC	Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).
S+	Surrogate recovery(ies) above upper control limit (S+).
RW	Reduced weight used for TCLP/SPLP Extraction.
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 50 Tufts Street

ESS Laboratory Work Order: 23E0474

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23E0474
Date Received: 5/12/2023
Project Due Date: 5/19/2023
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0.2 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By/Acid Lot#:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	429850	Yes	N/A	Yes	VOA Vial	MeOH	
1	430257	Yes	N/A	Yes	4 oz. Jar	NP	
1	430258	Yes	N/A	Yes	4 oz. Jar	NP	
1	430259	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials TD Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: TaylorDavis Date & Time: 1730 5/12/23
Reviewed By: Date & Time: 5/12/23 1738

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 23E0474.

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: 50 Tufts Street
Project Location: Somerville, MA
Project Number: 045163
Project Manager: Chris Coner
Send Report to: Chris Coner, Molly Forrest
labdata@geiconsultants.com

Page 1 of 1

Preservative

MeOH | none | none | none

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC (high)	TCLP VOC	SVOC	TCLP SVOC	Sample Specific Remarks
1	045163-50Tufts-TankB	5/11/23	10:30	GAC	4	DJM	X	X	X	X	

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
Dave Mill	5/11/23	16:30	1. GEI Fridge
2. GEI Fridge	5/12/23	13:05	2.
3. A. Cali	5/12/23	13:05	3. 5/12/23 13:05
4. 0.2 on ice	5/12/23	1708	4. Taylor Davis
5.			5.

Turnaround Time (Business days):

Normal X 4-Day ____ 3-Day ____
2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you must notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

GAC = granular activated carbon.

Appendix E

Pre-Sampling Checklists and Air Sampling Checklists

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 9 Knowlton

Sample ID: 045163-9Know-1

Date: 1/4/23 -1/5/23

Sampling personnel: C. Saledas

Summa Canister ID: 2584

Flow Regulator ID: 02196

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 16:01

Sampling Finish Time: 16:01

	During Sampling	
	Time	**Vacuum**
1/4/2023	**16:01**	**-30.98**
1/5/2023	**16:01**	**-3.95**

Did Summa canister go to ambient pressure? No

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in. Hg

Pressure gauge reading (After sample collected): Flow Controller: 0.0 (closed) in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	44	40
Barometric Pressure (in. Hg):	29.92	29.99
Prevailing Wind Direction:	E	E
General Weather Conditions:	Overcast, Light Rain	Overcast

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppb): 0.0 ppm

Photographs taken before sampling? Yes **If Yes, what time: Start Taken by: CWS**

Photographs taken after sampling? Yes / No **If Yes, what time:** _____ **Taken by:** _____

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**

Windows open? Yes / **No** **Ventilation fans?** Yes / **No**

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**

Were any of the residents home during sampling? Yes / No **If yes, provide detail:** _____

Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at _____.

Basement Ceiling Height (to joists): Front _____; **Back**_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 9 Knowlton

Sample ID: 045163-9Know-B

Date: 1/4/23 -1/5/23

Sampling personnel: C. Saledas

Summa Canister ID: 2631

Flow Regulator ID: 0380

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 15:58 on 1/4/23

Sampling Finish Time: 15:58 on 1/5/23

	During Sampling	
	Time	**Vacuum**
1/4/2023	**15:58**	**-30.58**
1/5/2023	**15:46**	**-6.19**
	15:58	**-6.01**

Did Summa canister go to ambient pressure? No

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in. Hg

Pressure gauge reading (After sample collected): Flow Controller: 0.0 (closed) in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	44	40
Barometric Pressure (in. Hg):	29.92	29.99
Prevailing Wind Direction:	E	5.9 mph
General Weather Conditions:	Overcast, Light Rain	Overcast

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppb): 0.0 ppm

Photographs taken before sampling? Yes **If Yes, what time: Start Taken by: CWS**

Photographs taken after sampling? Yes / No **If Yes, what time:** _____ **Taken by:** _____

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**

Windows open? Yes / **No** **Ventilation fans?** Yes / **No**

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**

Were any of the residents home during sampling? Yes / No **If yes, provide detail:** _____

Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at _____.

Basement Ceiling Height (to joists): Front _____; **Back**_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 9 Knowlton

Sample ID: 045163-9Know-SS1

Date: 1/5/23

Sampling personnel: C. Saledas

Summa Canister ID: 3185

Flow Regulator ID: 01497

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time:

Sampling Finish Time:

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
17:00	**-29.84**
17:15	**-26.47**
17:30	**-22.7**
17:45	**-19.3**
18:00	**-15.61**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40	40
Barometric Pressure:	29.99	29.99
Prevailing Wind Direction:	5.9 mph	N
General Weather Conditions:	Overcast	Overcast

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm):

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 9 Knowlton

Sample ID: 045163-9Know-SS2

Date: 1/5/23

Sampling personnel: C. Saledas

Summa Canister ID: 2438

Flow Regulator ID: 02106

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 17:02

Sampling Finish Time: 18:02

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
17:02	**-30.14**
17:17	**-23.3**
17:32	**-18.06**
17:47	**-12.38**
18:02	**-7.29**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40	40
Barometric Pressure:	29.99	29.99
Prevailing Wind Direction:	5.9 mph	N
General Weather Conditions:	Overcast	Overcast

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:
Moisture in tubing when I went to do final reading

Revised 8 Jan 2013

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 13 Knowlton

Sample ID: 045163- 13Know-1

Date: 1/9/23 - 1/10/23

Sampling personnel: C. Saledas

Summa Canister ID: 748

Flow Regulator ID: 01481

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 12:26 on 1/9

Sampling Finish Time: 12:26

	During Sampling	
	Time	**Vacuum**
1/9/2023	**12:26**	**-30.39**
1/10/2023	**12:11**	**-5.69**
1/10/2023	**12:26**	**-5.36**

Did Summa canister go to ambient pressure? No

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in. Hg

Pressure gauge reading (After sample collected): Flow Controller: 0.0 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	42	41
Barometric Pressure (in. Hg):	29.84	29.94
Prevailing Wind Direction:	NW	W
General Weather Conditions:	Cloudy	Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppb): 0

Photographs taken before sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**

Windows open? Yes / **No** **Ventilation fans?** Yes / **No**

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**

Were any of the residents home during sampling? Yes / No **If yes, provide detail: _____**

Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at _____.

Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 13 Knowlton

Sample ID: 045163- 13Know-B

Date: 1/9/23-1/10/23

Sampling personnel: C. Saledas

Summa Canister ID: 3345

Flow Regulator ID: 01687

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 12:31 on 1/9

Sampling Finish Time: 12:15 on 1/10

	During Sampling	
	Time	**Vacuum**
1/9/2023	**12:31**	**-30.15**
1/10/2023	**12:15**	**0**

Did Summa canister go to ambient pressure? Yes

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in. Hg

Pressure gauge reading (After sample collected): Flow Controller: ____in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	42	41
Barometric Pressure (in. Hg):	29.84	29.94
Prevailing Wind Direction:	NW	W
General Weather Conditions:	Cloudy	Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppb): 0

Photographs taken before sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**

Windows open? Yes / **No** **Ventilation fans?** Yes / **No**

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**

Were any of the residents home during sampling? Yes / No **If yes, provide detail: _____**

Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at _____.

Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 13 Knowlton

Sample ID: 045163-12Know-SS1

Date: 1/10/23

Sampling personnel: C. Saledas

Summa Canister ID: 3718

Flow Regulator ID: 02128

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 13:44

Sampling Finish Time: 14:44

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
13:44	**-28.88**
13:59	**-23.87**
14:14	**-17.42**
14:29	**-10.16**
14:44	**-4.38**

Pressure gauge reading (Pre-opening): Flow Controller: in.Hg

Pressure gauge reading (After sample collected): Flow Controller: in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	41	41
Barometric Pressure:	29.94	29.94
Prevailing Wind Direction:	W	W
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for ~ 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 13 Knowlton

Sample ID: 045163-12Know-SS2

Date: 1/10/23

Sampling personnel: C. Saledas

Summa Canister ID: 3179

Flow Regulator ID: 01448

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 13:45

Sampling Finish Time: 14:45

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
13:45	**-29.53**
14:00	**-23.65**
14:15	**-16.49**
14:30	**-10.46**
14:45	**-3.99**

Pressure gauge reading (Pre-opening): Flow Controller: -0.13 --> 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	41	41
Barometric Pressure:	29.94	29.94
Prevailing Wind Direction:	W	W
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for ~ 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105Wash-FF1

Date: 2/14/23-2/15/23
Sampling personnel: C. Saledas
Summa Canister ID: 2881
Flow Regulator ID: 01129
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 10:35 on 2/14/23
Sampling Finish Time: 10:10 on 2/15/23

During Sampling	
Time	**Vacuum**
10:35	**-29.98**
10:10	**-3.49**

Did Summa canister go to ambient pressure? No
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -0.37 TO 0.0 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: 0.32 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	46	44
Barometric Pressure (in. Hg):	29.89	30.13
Prevailing Wind Direction:	NW	S
General Weather Conditions:	Partly Cloudy	Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppb): 0.0 ppm

Photographs taken before sampling? Yes **If Yes, what time: 10:35 Taken by: CWS**
Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail: _OFFICE_____**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at _____.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105WASH-B1

Date: 2/14/23-2/15/23
Sampling personnel: C. Saledas
Summa Canister ID: 3083
Flow Regulator ID: 02248
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 10:30 on 2/14
Sampling Finish Time: 10:30 on 2/15

During Sampling	
Time	**Vacuum**
10:30	**-30.08**
10:05	**-7.37**
10:30	**-6.97**

Did Summa canister go to ambient pressure? No
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 TO -30.08 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -6.97 TO 0.0 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	46	44
Barometric Pressure (in. Hg):	29.89	30.13
Prevailing Wind Direction:	NW	S
General Weather Conditions:	Partly Cloudy	Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppb): _____

Photographs taken before sampling? Yes **If Yes, what time: 10:30 Taken by: CWS**
Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail: _OFFICE_____**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at _____.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

Vacuum prior to sampling (in. WC): NA
Ambient air concentation (ppm): 0.0 ppm

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105Wash-SV2

Date: 2/15/23

Sampling personnel: C. Saledas

Summa Canister ID: 2031

Flow Regulator ID: 02145

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 10:30

Sampling Finish Time: 11:45

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
10:30	**-30.45**
10:45	**-26.3**
11:00	**-21.06**
11:15	**-16.3**
11:37	**-12.15**
11:45	**-9.81**

Pressure gauge reading (Pre-opening): Flow Controller: 0.08 --> 0.0 --> -30.45 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -9.81 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	44	44
Barometric Pressure:	30.13	30.13
Prevailing Wind Direction:	S	S
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): 0.0

Ambient air concentration (ppb): 0.0

Soil gas concentration prior to sampling (ppm): 0.2

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV1

Date: 3/8/23

Sampling personnel: C. Saledas, D. Miller

Summa Canister ID: 2009

Flow Regulator ID: 01521

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:00

Sampling Finish Time: 13:00

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:00	**-30.57**
12:19	**-23.22**
12:29	**-19.02**
12:40	**-14.83**
12:50	**-10.35**
13:00	**-6.73**

Pressure gauge reading (Pre-opening): Flow Controller: -0.08 --> 0.00 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -6.73 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	42 °F	42 °F
Barometric Pressure:	30.01 in Hg	30.01 in Hg
Prevailing Wind Direction:	NW ~ 15 mph	NW ~ 15 mph
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? Yes If Yes, what time: 12:00 **Taken by: D. Miller**

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling. 10:25**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV2

Date: 3/8/23

Sampling personnel: C. Saledas, D. Miller

Summa Canister ID: 2176

Flow Regulator ID: 01922

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:01

Sampling Finish Time: 13:01

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:01	**-30.41**
12:19	**-22.64**
12:30	**-17.87**
12:40	**-13.04**
12:51	**-7.92**
13:01	**-3.2**

Pressure gauge reading (Pre-opening): Flow Controller: -0.00 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -3.20 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	42 °F	42 °F
Barometric Pressure:	30.01 in Hg	30.01 in Hg
Prevailing Wind Direction:	NW ~ 15 mph	NW ~ 15 mph
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? Yes If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0 ppm

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV3

Date: 3/8/23

Sampling personnel: C. Saledas, D. Miller

Summa Canister ID: 551

Flow Regulator ID: 0193

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:02

Sampling Finish Time: 12:51

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:02	**-30.52**
12:20	**-20.9**
12:30	**-14.56**
12:41	**-8.05**
12:51	**-1.37**

Pressure gauge reading (Pre-opening): Flow Controller: -0.00 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -1.37 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	42 °F	42 °F
Barometric Pressure:	30.01 in Hg	30.01 in Hg
Prevailing Wind Direction:	NW ~ 15 mph	NW ~ 15 mph
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? Yes If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0 ppm

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV4

Date: 3/8/23

Sampling personnel: C. Saledas, D. Miller

Summa Canister ID: 497

Flow Regulator ID: 01027

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:03

Sampling Finish Time: 13:03

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:03	**-30.32**
12:21	**-22.68**
12:31	**-17.62**
12:41	**-13.06**
12:51	**-8.05**
13:03	**-3.51**

Pressure gauge reading (Pre-opening): Flow Controller: -0.00 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	42 °F	42 °F
Barometric Pressure:	30.01 in Hg	30.01 in Hg
Prevailing Wind Direction:	NW ~ 15 mph	NW ~ 15 mph
General Weather Conditions:	Cloudy	Cloudy

Photographs taken before sampling? Yes If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0 ppm

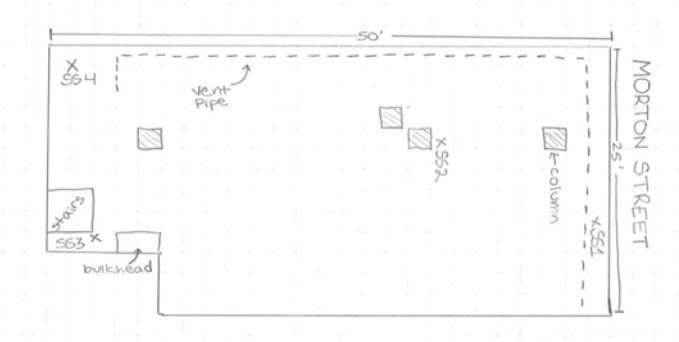
Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

SUB-SLAB MONITORING POINT INSTALLATION LOG

Project Name: 50 Tufts Street	Sub-Slab Monitoring Point IDs: SS1, SS2, SS3, and SS4
Project Number: 045163	
Address: 10 Morton Street	
Date: March 8, 2023	
Logged By: C. Saledas and D. Miller	

Basement Sketch:

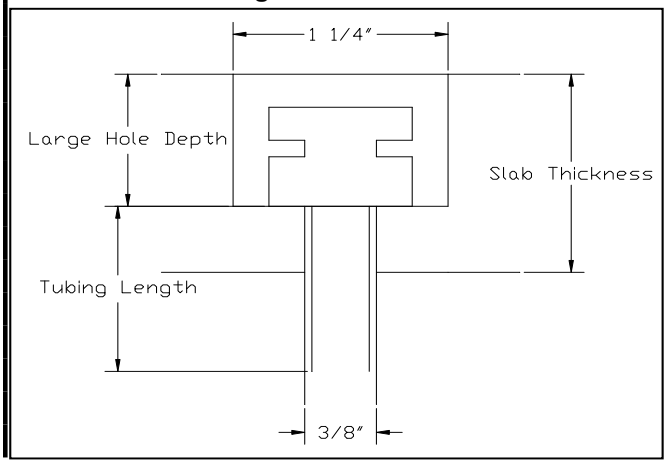


Ceiling Height:
Basement Height Above Grade:

Include: Wall lengths, sump dimension and location, dimensions and locations of any significant penetrations in the ground, sub-slab monitoring point locations, location of sealed vs. non-sealed walls, north arrow

Basement Sketch for Photo Log:

Sub-Slab Monitoring Point Profile:



	SS1	SS2	SS3	SS4
Slab Thickness:	5"	4.5"	5"	5"
Tubing Length:	2"	1.5"	2"	2"
Type of Material Under Slab:	Brown sand	Brown sand	Brown sand	Brown sand
Large Hole Depth:	2"	2"	2"	2"

Comments:

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 9 KNOWLTON

Sample ID: 045163-9Know-B

Date: 3/21/23 to 3/22/23
Sampling personnel: J. Farr
Summa Canister ID: 2890
Flow Regulator ID: 01640
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 16:05
Sampling Finish Time: 16:05

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? No
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.65 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -8.6 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	57	50
Barometric Pressure (in. Hg):	30.26	30.32
Prevailing Wind Direction:	E	W
General Weather Conditions:	Sunny	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	71.1	65.8
Barometric Pressure (in. Hg):	30.22	30.28

PID readings at sample location (ppb): 0

Photographs taken before sampling? Yes **If Yes, what time: 16:06 Taken by: J. Farr**
Photographs taken after sampling? Yes **If Yes, what time: 16:05 Taken by: J. Farr**

Was the building aired out prior to sample collection? Yes / No **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes **(off)**
Was there significant precipitation within 12 hours of (or during) the sampling event? No
Were any of the residents home during sampling? Yes **If yes, provide detail: _____**
Did any of the occupants NOT follow instruction for residents? Yes / No **If yes, describe below:**

Air intake at 3ft.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 9 KNOWLTON

Sample ID: 045163-9Know-1

Date: 3/21/23 to 3/22/23
Sampling personnel: J. Farr
Summa Canister ID: 2970
Flow Regulator ID: 02212
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 15:56
Sampling Finish Time: 15:56

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? No
Vacuum pressure reported by Laboratory: -29.0

Pressure gauge reading (Pre-opening): Flow Controller: -30.27 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -9.64 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	57	50
Barometric Pressure (in. Hg):	30.26	30.32
Prevailing Wind Direction:	E	W
General Weather Conditions:	Sunny	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	76.5	68.2
Barometric Pressure (in. Hg):	30.22	30.28

PID readings at sample location (ppb): 0

Photographs taken before sampling? Yes **If Yes, what time: 15:56 Taken by: J. Farr**
Photographs taken after sampling? Yes **If Yes, what time: 15:56 Taken by: J. Farr**

Was the building aired out prior to sample collection? Yes / No **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes **(off)**
Was there significant precipitation within 12 hours of (or during) the sampling event? No
Were any of the residents home during sampling? Yes **If yes, provide detail: _____**
Did any of the occupants NOT follow instruction for residents? No **If yes, describe below:**

Air intake at 3ft.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 9 Knowlton

Sample ID: 045163-9KNOW-SV1

Date: 3/22/23

Sampling personnel: J. Farr

Summa Canister ID: 2730

Flow Regulator ID: 0199

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 4:52

Sampling Finish Time: 6:30

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -30.62 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -9.26 in.Hg

During Sampling	
Time	**Vacuum**
4:52	**-30.62**
5:07	**-27.42**
5:22	**-23.95**
5:37	**20.4**
5:52	**-17.3**
6:07	**-13.84**
6:22	**-10.74**

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50	48
Barometric Pressure:	30.3	30.3
Prevailing Wind Direction:	West	West
General Weather Conditions:	Sunny	Partly Cloudy

Photographs taken before sampling? Yes If Yes, what time: 5:00 **Taken by:** J. Farr

Vacuum prior to sampling (in. WC): -0.03

Ambient air concentration (ppb): 0

Soil gas concentration prior to sampling (ppm): 4 ppb

Vapor point purged for ~5 min with a MiniRAE (500-600 cc/min) prior to sampling.

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 9 Knowlton

Sample ID: 045163-9KNOW-SV2

Date: 3/22/23

Sampling personnel: J. Farr

Summa Canister ID: 3903

Flow Regulator ID: 01443

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 4:43

Sampling Finish Time: 5:19

During Sampling	
Time	**Vacuum**
4:43	
4:59	**-14.14**
5:13	**-3.79**

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -30.09 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -1.00 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50	48
Barometric Pressure:	30.3	30.3
Prevailing Wind Direction:	West	West
General Weather Conditions:	Sunny	Sunny

Photographs taken before sampling? Yes If Yes, what time: 5:00 **Taken by:** J. Farr

Vacuum prior to sampling (in. WC): -0.06

Ambient air concentration (ppb): 0

Soil gas concentration prior to sampling (ppm): 7 ppb

Vapor point purged for ~5 min with a MiniRAE (500-600 cc/min) prior to sampling.

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV1

Date: 3/31/2023

Sampling personnel: D. Miller

Summa Canister ID: BC2383

Flow Regulator ID: 4402

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 9:54

Sampling Finish Time:

Did Summa Canister go to ambient pressure? Yes/No

During Sampling	
Time	**Vacuum**
9:54	**-29**
10:09	**-23**
10:24	**-17**
10:39	**-10**
10:54	**-4.5**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -4.5 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40 °F	40 °F
Barometric Pressure:	30.35 in. Hg	30.35 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): -29

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Photographs taken before samplng. Vapor point MiniRAE was 3000. Closest to street. Analog vacuum guage --> lab noted they're approx readings, +/- 2 in. Hg of natural pressure.

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV2

Date: 3/31/2023

Sampling personnel: D. Miller

Summa Canister ID: BC2742

Flow Regulator ID: 4403

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 9:55

Sampling Finish Time:

Did Summa Canister go to ambient pressure? Yes/No

During Sampling	
Time	**Vacuum**
9:54	**-30**
10:09	**-23**
10:24	**-16.5**
10:39	**-9**
10:54	**-4**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -4 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40 °F	40 °F
Barometric Pressure:	30.35 in. Hg	30.35 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): -30

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:
In middle by pillar. Analog vacuum guage - see SV1 note

Revised 8 Jan 2013

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV3

Date: 3/31/2023

Sampling personnel: D. Miller

Summa Canister ID: BC2750

Flow Regulator ID: 4446

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 9:56

Sampling Finish Time:

Did Summa Canister go to ambient pressure? Yes/No

During Sampling	
Time	**Vacuum**
9:56	**-30**
10:11	**-23.5**
10:26	**-16.5**
10:41	**-9**
10:56	**-3.5**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -3.5 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40 °F	40 °F
Barometric Pressure:	30.35 in. Hg	30.35 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): -30

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:
By stairs. Analog vacuum guage - see SV1 note

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV4

Date: 3/31/2023

Sampling personnel: D. Miller

Summa Canister ID: BC2759

Flow Regulator ID: 4414

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 9:57

Sampling Finish Time:

Did Summa Canister go to ambient pressure? Yes/No

During Sampling	
Time	**Vacuum**
9:57	**-30**
10:12	**-23.5**
10:27	**-16**
10:42	**-9**
10:57	**-4**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -4 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40 °F	40 °F
Barometric Pressure:	30.35 in. Hg	30.35 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): -30

Ambient air concentration (ppb): 0.0 ppm

Soil gas concentration prior to sampling (ppm): 0.0

Vapor point purged for 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:
In corner. Analog vacuum guage - see SV1 note

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV1

Date: 4/24/23

Sampling personnel: C. Saledas

Summa Canister ID: 446

Flow Regulator ID: 01521

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:55

Sampling Finish Time: 13:55

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:55	**-30.32**
13:12	**-23.59**
13:35	**-14.16**
13:55	**-7.25**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 --> -30.32 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: 0.0 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	54	54
Barometric Pressure:	29.99	29.99
Prevailing Wind Direction:	NE	NE
General Weather Conditions:	Clear	Clear

Photographs taken before sampling? No **If Yes, what time:** **Taken by:**

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0

Soil gas concentration prior to sampling (ppm):

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV2

Date: 4/24/23

Sampling personnel: C. Saledas

Summa Canister ID: 2734

Flow Regulator ID: 01016

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:56

Sampling Finish Time: 13:56

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:56	**-30**
13:13	**-23.61**
13:36	**-14.13**
13:56	**-6.53**

Pressure gauge reading (Pre-opening): Flow Controller: 0.10 --> 0.00 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: 0.0 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	54	54
Barometric Pressure:	29.99	29.99
Prevailing Wind Direction:	NE	NE
General Weather Conditions:	Clear	Clear

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0

Soil gas concentration prior to sampling (ppm):

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV3

Date: 4/24/23

Sampling personnel: C. Saledas

Summa Canister ID: 414

Flow Regulator ID: 01733

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:57

Sampling Finish Time: 13:57

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:57	**-30.032**
13:13	**-25.54**
13:37	**-13.39**
13:57	**-4.99**

Pressure gauge reading (Pre-opening): Flow Controller: -0.0 --> -30.32 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: 0.0 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	54	54
Barometric Pressure:	29.99	29.99
Prevailing Wind Direction:	NE	NE
General Weather Conditions:	Clear	Clear

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0

Soil gas concentration prior to sampling (ppm):

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 10 MORTON

Sample ID: 045163-10Mort-SV4

Date: 4/24/23

Sampling personnel: C. Saledas

Summa Canister ID: 2215

Flow Regulator ID: 0193

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 12:58

Sampling Finish Time: 13:48

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
12:58	**-30.27**
13:13	**-23.11**
13:38	**-10.4**
13:48	**-4.68**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 --> -30.27 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -4.68 --> 0.00 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	54	54
Barometric Pressure:	29.99	29.99
Prevailing Wind Direction:	NE	NE
General Weather Conditions:	Clear	Clear

Photographs taken before sampling? No **If Yes, what time: Taken by:**

Vacuum prior to sampling (in. WC): NM

Ambient air concentration (ppb): 0.0

Soil gas concentration prior to sampling (ppm):

Vapor point purged for ~5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Revised 8 Jan 2013

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 103 WASHINGTON

Sample ID: 045163-103Wash - SV1

Date: 5/10/2023

Sampling personnel: D. Miller

Summa Canister ID: 2013

Flow Regulator ID: 01715

Sample Type / Analysis Method: SUMMA/TO-15 **initial**

Sampling Start Time: 13:47

Sampling Finish Time: 14:47

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
13:47	**-30.04**
14:04	**-23.73**
14:19	**-17.87**
14:36	**-11.15**
14:47	**-6.88**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg (-30.04)

Pressure gauge reading (After sample collected): Flow Controller: -6.88 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	68 °F	68 °F
Barometric Pressure:	30.11 in. Hg	30.11 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Sunny	Sunny

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb): 0.1 - 0.2 ppmv

Soil gas concentration prior to sampling (ppm): 0.0 ppmv

Vapor point purged for 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 103 WASHINGTON

Sample ID: 045163-103Wash - SV2

Date: 5/10/2023

Sampling personnel: D. Miller

Summa Canister ID: 1805

Flow Regulator ID: 01527

Sample Type / Analysis Method: SUMMA/TO-15 **initial**

Sampling Start Time: 13:48

Sampling Finish Time: 14:48

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
13:48	**-29.98**
14:05	**-23.72**
14:20	**-17.89**
14:37	**-11.35**
14:48	**-6.88**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg (-29.98)

Pressure gauge reading (After sample collected): Flow Controller: -6.88 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	68 °F	68 °F
Barometric Pressure:	30.11 in. Hg	30.11 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Sunny	Sunny

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb):

Soil gas concentration prior to sampling (ppm):

Vapor point purged for _____ with a MiniRAE (500-600 cc/min) prior to sampling.

Comments:

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 103 WASHINGTON

Sample ID: 045163-103Wash - F1

Date: 5/9/23 to 5/10/23
Sampling personnel: D. Miller
Summa Canister ID: 3343
Flow Regulator ID: 0023
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 9:46 on 5/9/23
Sampling Finish Time: 12:30 on 5/10/23

During Sampling	
Time	**Vacuum**
9:06	**-9.23**
10:04	**-8.28**

Did Summa canister go to ambient pressure? No
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.07 in. Hg **(0.0 before opening)**
Pressure gauge reading (After sample collected): Flow Controller: -8.28 in. Hg

Environmental Conditions (Outside): Inside	**Before Sampling**	**After Sampling**
Temperature (°F):	55	62
Barometric Pressure (in. Hg):	29.98	30.11
Prevailing Wind Direction:	NE	West
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	68	68
Barometric Pressure (in. Hg):	29.97	30.11

PID readings at sample location (ppb): 0.3

Photographs taken before sampling? Yes / No **If Yes, what time: _____ Taken by: _____**
Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / No **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes / No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No
Were any of the residents home during sampling? Yes / No **If yes, provide detail: _____**
Did any of the occupants NOT follow instruction for residents? Yes / No **If yes, describe below:**

Air intake at _____.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105Wash - F1

Date: 5/9/23 to 5/10/23

Sampling personnel: D. Miller

Summa Canister ID: 2712

Flow Regulator ID: 02234

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 9:38 on 5/9/23

Sampling Finish Time: 10:47 on 5/10/23

During Sampling	
Time	**Vacuum**
9:01	**-11.59**
9:38	**-11.03**
10:13	**-10.45**
10:47	**-9.89**

Did Summa canister go to ambient pressure? No

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -29.96 in. Hg **(0.0 before opening)**

Pressure gauge reading (After sample collected): Flow Controller: -9.89 in. Hg

Environmental Conditions (Outside): Inside	**Before Sampling**	**After Sampling**
Temperature (°F):	55	62
Barometric Pressure (in. Hg):	29.98	30.11
Prevailing Wind Direction:	NE	West
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	72	73
Barometric Pressure (in. Hg):	29.97	30.11

PID readings at sample location (ppb): 0.0

Photographs taken before sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / No **If yes, how long?**

Windows open? Yes / No **Ventilation fans?** Yes / No

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No

Were any of the residents home during sampling? Yes / No **If yes, provide detail: _____**

Did any of the occupants NOT follow instruction for residents? Yes / No **If yes, describe below:**

Air intake at _____.

Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105Wash - B1

Date: 5/9/23 to 5/10/23
Sampling personnel: D. Miller
Summa Canister ID: 1693
Flow Regulator ID: 02155
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 9:42 on 5/9/23
Sampling Finish Time: 9:02 on 5/10/23

During Sampling	
Time	**Vacuum**
9:02	**-0.13**

Did Summa canister go to ambient pressure? No
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.10 in. Hg **(0.0 before opening)**
Pressure gauge reading (After sample collected): Flow Controller: -0.13 in. Hg

Environmental Conditions (Outside): Inside	**Before Sampling**	**After Sampling**
Temperature (°F):	55	62
Barometric Pressure (in. Hg):	29.98	30.11
Prevailing Wind Direction:	NE	West
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	70	70
Barometric Pressure (in. Hg):	29.97	30.11

PID readings at sample location (ppb): 0.0

Photographs taken before sampling? Yes / No **If Yes, what time: _____ Taken by: _____**
Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / No **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes / No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No
Were any of the residents home during sampling? Yes / No **If yes, provide detail: _____**
Did any of the occupants NOT follow instruction for residents? Yes / No **If yes, describe below:**

Air intake at _____.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105Wash - B2

Date: 5/9/23 to 5/10/23

Sampling personnel: D. Miller

Summa Canister ID: 972

Flow Regulator ID: 01474

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 9:46 on 5/9/23

Sampling Finish Time: 12:30 on 5/10/23

During Sampling	
Time	**Vacuum**
9:04	**-12.58**
9:42	**-12.07**
10:15	**-11.6**
12:30	**-9.86**

Did Summa canister go to ambient pressure? No

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -29.83 in. Hg **(0.0 before opening)**

Pressure gauge reading (After sample collected): Flow Controller: -9.86 in. Hg

Environmental Conditions (Outside): Inside	**Before Sampling**	**After Sampling**
Temperature (°F):	55	62
Barometric Pressure (in. Hg):	29.98	30.11
Prevailing Wind Direction:	NE	West
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	68	68
Barometric Pressure (in. Hg):	29.97	30.11

PID readings at sample location (ppb): 0.0

Photographs taken before sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / No **If yes, how long?**

Windows open? Yes / No **Ventilation fans?** Yes / No

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No

Were any of the residents home during sampling? Yes / No **If yes, provide detail: _____**

Did any of the occupants NOT follow instruction for residents? Yes / No **If yes, describe below:**

Air intake at _____.

Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

SUB-SLAB SAMPLING CHECKLIST

Sampling Location: 105 WASHINGTON

Sample ID: 045163-105Wash - SV2

Date: 5/10/2023

Sampling personnel: D. Miller

Summa Canister ID: 2763

Flow Regulator ID: 01717

Sample Type / Analysis Method: SUMMA/TO-15 **initial**

Sampling Start Time: 13:57

Sampling Finish Time: 14:57

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
13:57	**-29.98**
14:16	**-23.72**
14:29	**-17.89**
14:44	**-11.35**
14:57	**-6.88**

Pressure gauge reading (Pre-opening): Flow Controller: 0.0 in.Hg (-29.41)

Pressure gauge reading (After sample collected): Flow Controller: -7.24 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	68 °F	68 °F
Barometric Pressure:	30.11 in. Hg	30.11 in. Hg
Prevailing Wind Direction:	West	West
General Weather Conditions:	Sunny	Sunny

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC):

Ambient air concentration (ppb): 0.1

Soil gas concentration prior to sampling (ppm): 0.0

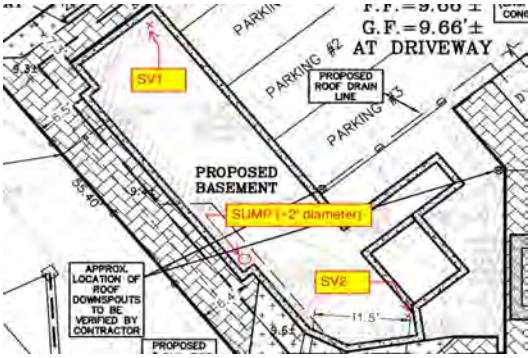
Vapor point purged for 5 min **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

SUB-SLAB MONITORING POINT INSTALLATION LOG

Project Name: 50 Tufts Street	Sub-Slab Monitoring Point IDs: SV1 and SV2
Project Number: 045163	
Address: 103 Washington Street	
Date: May 10, 2023	
Logged By: D. Miller	

Basement Sketch:

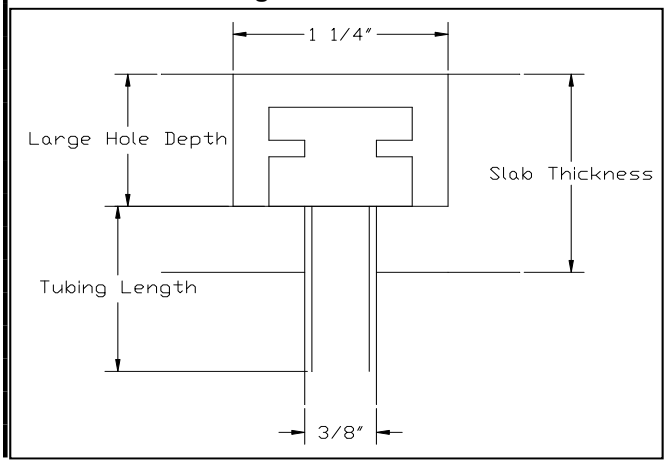


Ceiling Height:	
Basement Height Above Grade:	

Include: Wall lengths, sump dimension and location, dimensions and locations of any significant penetrations in the ground, sub-slab monitoring point locations, location of sealed vs. non-sealed walls, north arrow

Basement Sketch for Photo Log:

Sub-Slab Monitoring Point Profile:



	SV1	SV2		
Slab Thickness:	10"	10"		
Tubing Length:	6"	6"		
Type of Material Under Slab:	brown sand	brown sand		
Large Hole Depth:	2"	2"		

Comments:

Appendix F

Field Monitoring Forms

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas	**Monitoring Start Time:**	12:00 PM
		Monitoring End Time:	12:15 PM
Date:	12/19/22		
Weather:	40's, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration	
Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	3.7
Blower Effluent	NM	3.4
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data	
Velocity (ft/min)	**System Flowrate (CFM):**
NM	NM

Tank Exterior Monitoring	
Bubbling Paint Visible?	
Tank	**Y/N**
A	Yes
B	Yes
C	Yes
Rust Visible?	
Tank	**Y/N**
A	Yes
B	Yes
C	Yes

ABBREVIATIONS	COMMENTS
ppm = parts per million CFM = cubic feet per minute ft/min = feet per minute PID = photoionization detector N/A = Not Applicable VOC = volatile organic compound in. H2O = inches of water column NM = Not Measured VFD = Variable Frequency Drive	

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	11:00 AM
		Monitoring End Time:	11:55 AM
Date:	01/19/23		
Weather:	40's, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemometer (CFM)	Reed	R4500SD	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.15	2.1
Center Header	-2.13	3.4
East Header	-2.10	1.6
North Header	-1.96	0.4
South Header	-2.24	10
Combined System Influent	-6.35	2.0
Blower Effluent	-12.29	2.0
Lead Carbon Effluent	20.6	0.5
Secondary Carbon Effluent	1.54	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	16	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
3830	334

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	2:00 PM
		Monitoring End Time:	2:20 PM
Date:	02/06/23		
Weather:	40's, mostly cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemometer (CFM)	Reed	R4500SD	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	1.5
Blower Effluent	NM	1.5
Lead Carbon Effluent	NM	0.3
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS	COMMENTS
ppm = parts per million CFM = cubic feet per minute ft/min = feet per minute PID = photoionization detector N/A = Not Applicable VOC = volatile organic compound in. H2O = inches of water column NM = Not Measured VFD = Variable Frequency Drive	

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	1:30 PM
		Monitoring End Time:	1:55 PM
Date:	03/15/23		
Weather:	40's, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.1 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemometer (CFM)	Reed	R4500SD	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	1.1
Blower Effluent	NM	1.3
Lead Carbon Effluent	NM	0.8
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	10:50 AM
		Monitoring End Time:	11:40 AM
Date:	04/21/23		
Weather:	50's, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemometer (CFM)	Reed	R4500SD	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-1.94	2.2
Center Header	-1.96	3.7
East Header	-1.96	1.4
North Header	-1.88	1.3
South Header	-2.24	10
Combined System Influent	-6.00	2.4
Blower Effluent	22.20	2.6
Lead Carbon Effluent	14.2	1.1
Secondary Carbon Effluent	1.57	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	16	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
4468	390

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS	COMMENTS
ppm = parts per million CFM = cubic feet per minute ft/min = feet per minute PID = photoionization detector N/A = Not Applicable VOC = volatile organic compound in. H2O = inches of water column NM = Not Measured VFD = Variable Frequency Drive	

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	9:20 AM
		Monitoring End Time:	9:40 AM
Date:	05/11/23		
Weather:	60's, P. cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemometer (CFM)	Reed	R4500SD	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	1.7
Blower Effluent	NM	1.7
Lead Carbon Effluent	NM	0.4
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	12:40 PM
		Monitoring End Time:	1:00 PM
Date:	06/13/23		
Weather:	60's, Cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.1 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemometer (CFM)	Reed	R4500SD	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	3.0
Blower Effluent	NM	2.8
Lead Carbon Effluent	NM	1.8
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas	**Monitoring Start Time:**	10:30 AM
	D. Miller	**Monitoring End Time:**	11:00 AM
Date:	01/19/23		
Weather:	40°F, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE 3000	592-911053	100.0 ppm Isobutylene	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration	
Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	-0.95	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	5	
Blower Filter Outlet	52	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data	
Velocity (feet per minute)	**System Flowrate (CFM): = (PI * r^2) * ft per min**
1027	88

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Monitoring Start Time:**	10:10 AM
		Monitoring End Time:	10:40 AM
Date:	04/21/23		
Weather:	50°F, partly cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE 3000	592-911053	100.0 ppm Isobutylene	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemometer (CFM)	Reed	R4500SD	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration	
Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	-1.29	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	8	
Blower Filter Outlet	31	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data	
Velocity (feet per minute)	**System Flowrate (CFM): = (PI * r^2) * ft per min**
1452	124

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	D. Miller	Start-time of monitoring work:	12:10 PM	NA
		End-time of monitoring work:	1:30 PM	NA
Date:	01/19/23			
Weather:	cloudy, ~40 ° F			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000	SN 592-911053	100 ppm Isobutylene	Yes
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Reed	R4500SD	N/A	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? Yes

Condensate Drained? No

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	44
Manifold 13	52
Manifold 14	65

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-2.120	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.650	0 to 2000	0.0
Manifold 14	-0.300 to -0.500	-0.950	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.555	0.0
122-2	on	-0.343	0.0
122-3	on	-0.312	0.0
126-1	on	-0.018	0.0
126-2	on	-0.021	0.0
126-3	on	-0.027	0.0
134-1	on	-1.288	0.0
134-2	on	-1.398	0.0
134-3	on	-1.274	0.0
138-1	on	-1.409	0.0
138-2	on	-1.382	0.0
138-3	on	-1.378	0.0
142-1	on	-0.568	0.0
142-2	on	-0.588	0.0
142-3	on	-0.586	0.0
146-1	on	-0.560	0.0
146-2	on	-0.547	0.0
146-3	on	-0.546	0.0

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Manifold 12 Vacuum reading was inconsistent, ranging from -2.12 to -3.97 (in. H2O), related to condensate accumulation

122-1 Vacuum reading was inconsistent, ranging from -0.555 to -1.030 (in. H2O), related to condensate accumulation

122-2 Vacuum reading was inconsistent, ranging from -0.343 to -1.057 (in. H2O), related to condensate accumulation

122-3 Vacuum reading was inconsistent, ranging from -0.312 to -0.955 (in. H2O), related to condensate accumulation

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.
10. Anemometer not functioning. Influent flow was not measured.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	D. Miller	Start-time of monitoring work:	11:50 AM	NA
		End-time of monitoring work:	1:10 PM	NA
Date:	04/21/23			
Weather:	sunny, ~55 ° F			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000	SN 592-911053	100 ppm Isobutylene	Yes
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Reed	R4500SD	N/A	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? No

Condensate Drained? No

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	24
Manifold 13	83
Manifold 14	89

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.035	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.430	0 to 2000	0.1
Manifold 14	-0.300 to -0.500	-0.795	0 to 2000	0.1

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.036	0.0
122-2	on	-0.045	0.0
122-3	on	-0.023	0.0
126-1	on	-0.036	0.0
126-2	on	-0.031	0.0
126-3	on	-0.031	0.0
134-1	on	-1.188	0.0
134-2	on	-1.296	0.0
134-3	on	-1.191	0.1
138-1	on	-1.321	0.1
138-2	on	-1.305	0.0
138-3	on	-1.301	0.0
142-1	on	-0.543	0.0
142-2	on	-0.573	0.0
142-3	on	-0.555	0.1
146-1	on	-0.539	0.0
146-2	on	-0.527	0.0
146-3	on	-0.527	0.1

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.
10. Anemometer not functioning. Influent flow was not measured.

Appendix G

EPMM Inspection Forms

EPEM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas	**Address:**	9 Knowlton Street
		Monitoring Start Time:	4:00 PM
Date:	01/05/23	**Monitoring End Time:**	4:20 PM
Weather:	Light Rain, ~44F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000		100 ppm Isobutylene	(Y) N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series		N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	Y / (N)	System Influent Pipe	NM	NM	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	SS1	NM	0.0	Near water heater in the center of the basement.
Excessive fan noise?	Y / (N)				
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. ppm = parts per million.
2. PID = photoionization detector.
3. N/A = Not Applicable.
4. VOC = volatile organic compound.
5. in. H_2O = inches of water column.
6. NM = Not Measured.

COMMENTS:

1. Ambient Air reading = 0.1 ppm.
2. Approximately 1/2 of the basement is used for storage, so it wasn't possible to observe all the slab penetrations.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	C. Saledas D. Miller	**Property Address:**	10 Morton Street
Date:	03/08/23	**Monitoring Start Time:**	8:45 AM
Weather:	Cloudy, ~40°	**Monitoring End Time:**	1:15 PM
		Option 2 or 3:	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-911053	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm):100.0

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Ambient Air = 0.0 ppm
2. Observed shallow cracks near stairs.
3. Observed shallow cracks along wall/ floor interface.
4. Piping in good condition.
5. Repairs made by M. Sepe in good condition.
6. Observed water near bulkhead door/bay window area
7. Installed and sampled four new sub-slab soil vapor points

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	D. Miller	**Property Address:**	91-93 Franklin Street
		Monitoring Start Time:	09:05 AM
Date:	02/24/23	**Monitoring End Time:**	09:30 AM
Weather:	Sunny, 30° F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909246	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.3

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Brick dust observed on walls and pipes.
2. Some water damage around furnace and spread towards central basement
3. Minor peeling of epoxy layer on some areas of wall by bulkhead door/windows, and by bottom of stairs. 0.0 ppm
4. Ambient Air = 0.0 ppm
5. Liquid drops by bottom of stairs noted by tenant (unknown, slightly sticky, appears unrelated to system)

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Address:**	13 Morton Street
		Monitoring Start Time:	09:40 AM
Date:	02/24/23	**Monitoring End Time:**	10:20 AM
Weather:	Sunny, 30° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909246	100 ppm Isobutylene Time: 09:00 AM	(Y) / N Cal. Reading (ppm): 100.3
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	-2.7	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	System Influent Pipe (Dwyer Manometer)	-2.684	0.0	
Excessive fan noise?	Y / (N)	SS1	-0.611	0.1	Near building column between furnace and back wall; see comment (4.)
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	AA	N/A	0.0	
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				worn concrete, likely due to water infiltration; minor peeling patches on wall

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

1. Noted sump area in back of basement (no exposed soil), 0.0 - 0.1 ppm
2. Changed node battery, now communicating
3. Downdraft prevention cap missing
4. SS1 point filled with dust when opening to measure and may have impaired readings; bring tool next time to clear out
5. Observed an area of peeling paint

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	D. Miller	**Property Address:**	27 Tufts Street
		Monitoring Start Time:	9:50 AM
Date:	02/21/23	**Monitoring End Time:**	10:10 AM
Weather:	Light wintry mix, 30-40 ° F	**Option 2 or 3:**	(1)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909246	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.4

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Water staining near basement stairs and on floor between system pipes and opposite wall.
2. Exposed mesh near SSVS piping wall penetration.
3. Flaking epoxy on stairs (though PID reading near stairs 0.0 ppm). St. Repairs made by M. Sepe appear in good condition.
4. Manometer should be installed during next site visit.
5. Ambient Air = 0.0 ppm
6. Changed node battery, telemetry back online, needs pressure switch.

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Address:**	23 Tufts Street
		Monitoring Start Time:	9:00 AM
Date:	2/21/2023	**Monitoring End Time:**	9:50 AM
Weather:	Light wintry mix, 30-40 ° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909246	100 ppm Isobutylene Time: 08:30	(Y) N Cal. Reading (ppm): 100.4 ppm
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	-3.45	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	System Influent Pipe (Dwyer Manometer)	-3.490	0.0	
Excessive fan noise?	Y / (N)				
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

100% of basement floor/walls covered with dry wall and tiles, finished bedrooms.

Ambient Air= 0.0 ppm

Changed node battery; telemetry online now

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Forrest	**Property Address:**	34 Knowlton St
		Monitoring Start Time:	3:35 PM
Date:	2/16/2023	**Monitoring End Time:**	3:45 PM
Weather:	Sunny, ~40°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-911053	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm):99.4

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	good / fair / poor	Not observed.
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor	
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor	
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)	
Downdraft Prevention Cap Present?	Y / N	Not observed.

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Small slab crack near storage unit #2 .
2. Ambient Air= 0.3 ppm
3. Some pipes not visible due to storage.